THE HP Palmtop Paper

This woman has difficulty moving and speaking. She uses the HP Palmtop to communicate with the world.

Overcoming Disabilities *with* the HP Palmtop

PLUS:
Everything you need to develop software for the HP Palmtop!

The HP Palmtop helps this student with a learning disability remember assignments and bring them home.

YOUR HP PALMTOP
JUST TOOK A QUANTUM LEAP.

With just one SMART move, your Hewlett-Packard Palmtop can jump from a portable organizer to a mobile communications center! The Fax Modem & Memory Multifunction Card from SMART Modular Technologies enables this transformation by combining industry high speed fax & modem capabilities with powerful, on-board flash memory—all on the same streamlined PCMCIA Type II compatible card. By coupling 14,400 bps fax, up to a full 4 or 6MB of memory and a 2400 bps modem in a single card, you can send, receive, store and print communications that before now were beyond the reach of palmtop computing. In keeping with our reputation for making your life easy, this powerful multifunction card provides all the functions you need: easy data transfer between your HP LX and your notebook or desktop computer, additional hard drive capacity, and increased reliability during data transmission. Best of all, it has the lowest power requirements of any multifunction card made for the HP LX in the market! All told, the Fax Modem & Memory Card from SMART is a Calaveras County-like leap forward for palmtop computing and serious Hewlett-Packard 100LX and 200LX users like you. When you think speed, performance and quality. Think SMART.

Publisher's Message

Top: Hal Goldstein
Bottom: Robert Roney and Richard Hall

So much potentiality in such a small package!

We could be talking about the HP Palmtop or about quantum mechanical particles. Perhaps, the idea of great potentiality contained in small packages appeals to the human psyche because it is the story of how the universe works.

Like a photon enlivening an elementary particle, our awareness projected onto the Palmtop turns it into a useful tool. Our consciousness as physician, teacher, or salesperson allows us to use the Palmtop's capabilities to be more effective to further our goals. No matter our profession or personal circumstances, the Palmtop appeals to our universal need to order and get control of our lives.

Every two months for nearly four years these pages have told the story of how someone uses his HP Palmtop. We have seen the ways CFO's, engineers, CPA's, physicians, farmers, students, teachers, marketers use the palmtop. These stories chronicle different needs and how the Palmtop's potentiality can be tapped to fulfill those needs. When we read the stories of how other people use their Palmtop, it is like variations on a theme: we get ideas for how we can better use the Palmtop ourselves. This issue isn no exception. See if you don't find ideas to better your Palmtop usage when you read how a thirteen year old girl with attention deficit disorder and how a woman with Parkinson's disease use the Palmtop to make their lives a little better.

When I asked my wife what she thought of the cover she told me it looked more like *People Magazine* rather than a technical publication. We hope you don't mind. After all, how people use the Palmtop to better their lives is the real story of *The HP Palmtop Paper*.

Part of the latent power of the Palmtop is that it is a DOS computer. That means programmers can write Palmtop applications which provide users with more tools to solve individual needs. In this issue we review Palmtop technical reference information found in the newly released *HP Palmtop 100LX/200LX Developer's Guide*. Then we examine the work of an independent team of programmers. The fruit of their project is software tools by which any Palmtop developer can make a DOS application which will look and act like a Palmtop built-in application. We have written and organized these two articles in such a way that non-technical users can read them and appreciate what is involved in in creating Palmtop applications.

Finally, we want to wish Robert Roney the best of luck. Robert has been our technical editor for the past few years. He has left his position with us to teach at the Maharishi Management University in Chicago, a school which examines management concepts in light of human consciousness.

Hal Goldstein

10 Years of Excellence
1985   1995
Thaddeus Computing, INC.

Palmtop Wisdom

Personal Effectiveness Using the HP Palmtop

*The editors of **The HP Palmtop Paper** welcome you to **Palmtop Wisdom**. Palmtop Wisdom takes current thinking about **leadership, human relations, time management, finance, self-development, travel,** and **entertainment** and shows the concrete application of these concepts using HP's100/200LX Palmtop PCs.*

We welcome your feedback, ideas, and contributions.

STAYING ORGANIZED

Make the Most of Your Time by Sorting and Cross Referencing Your ToDo List by Activity

Effective time management means avoiding unnecessary repeat actions that waste time and money. With a busy schedule and a long list of ToDo's, it's easy to find yourself running in circles — going back to a store to buy forgotten items, or calling someone two or three times when once was all you needed. Grouping your ToDo items by activity can solve this problem.

ON THE PALMTOP
I use a custom NoteTaker ToDo list instead of Appointment Book's ToDo list because the custom list lets me use Subsets to sort my ToDo's in useful ways. I developed this system because my ToDo's tend to fall in a number of distinct types. For example, I have CALLS I need to make, things I want to READ, items I want to BUY, places I need to GO, etc.

The problem with Appointment Book's ToDo list is that I wasted a lot of time scrolling through the list. For example, if I had some time for phone calls, I had to go through a list of 50 or so unrelated ToDo items to find the calls I needed to make. I needed a way to quickly list all the ToDo's of a particular type, sorted by importance.

The NoteTaker Solution

Open a new NoteTaker file on the HP 100/200LX and save it as "TODOLIST." Then start entering your ToDo's as individual items in NoteTaker (press F2 to add a new ToDo item). Enter your ToDo items as described below:

1. In the Title field — Enter the general type of the ToDo. You can create your own types, but I use those listed below. Don't forget to put a colon (:) after "Go", etc., or when you sort for these Subsets you will pull up entries that include words like "**Go**lf" and **Go**t".

If you enter more than one type of activity in the Title field (e.g. "Go shopping" can be a **Go:** and a **Buy:**) you can bring the item up in more than one Subset — thereby cross referencing it.

- **Write:** Letters I want or need to write.
- **Go:** Things I have do do away from home (for example, mail a package at the post office).
- **Buy:** Items I need to buy.
- **Call:** Any phone calls I need to make.
- **Do:** Anything I want or need to do at home. This item does not include Calls, Writes, or Reads.
- **Read:** Anything I want or need to read.
- **?:** Things I need to think about (e.g., "What should I get Mom for her birthday?).

2. In the Category field — I use the Category field to list items by importance. You can devise your own ranking scheme. I prioritize my ToDo's as follows:

0 Do today!
1 Important.
3 Not important.
9 Don't bother (for things I might want to do "someday", but I don't want to delete).

3. In the Notes field — Enter a description of the ToDo here (e.g., "Get Bill's birthday present," etc.).

4. Use Subsets to display ToDo's — The Subsets are the key to this system. I have Subsets defined to display my Gos, Calls, Buys, Dos, Reads, and ?s. For example, to define the Buy Subset in NoteTaker, I press F6 (Subset) F2 (Define) and key in **Buy:** in the Title field. I press F10, name the Subset "Buy" and press F10 again. Whenever I select that Subset, only my Buy ToDo's are displayed.

Paul Merrill
Associate Editor, HP Palmtop Paper

SELF DEVELOPMENT

Uplift Your Spirits by Focusing on Your Goals and Successes

We all have within ourselves at any moment, thoughts that can provide us with inspiration at a moments notice. When bored or not feeling up to snuff, we can remind ourselves of the successes in our lives. We can decide to do things we know will make us happy, focus on our life goals, or remember a favorite joke.

ON THE PALMTOP
For this example, let's create a custom database that documents the high points in our life and describes our personal successes. The example shown below worked for me, but you may want to set yours up differently.

To define a new database, open the DataBase application and press

[MENU] File Define New Database. The actual steps for creating a custom database are described in the *HP 100/200LX User's Guide* (see "database, defining new" in the index for a page reference). You'll need to add the following fields to your Success database:

Success database, Data Item screen showing success information.

• **Event** (a text box) — The name of your success (e.g. "traveled from England to Japan by myself.")

• **Date** (a text box) — The date the success occurred. The reason to choose a text field for the dates of your success is because the Date box option only allows you to enter one date and not a range of dates if that's what your success needs (i.e. 2/5/1975 - 3/16/1978).

• **Age** (a text box) — The reason to choose a text box rather than the Number option is the same as above. A Number box will not allow you to enter a hyphen if your age entry needs to be 16 - 18.

• **Category** (a category box) — I categorize my successes under: Personal, Physical, Social, Spiritual, and Financial.

• **Learned** (a text box) — The most valuable things you learned from the experience (e.g. "self confidence").

• **Contacts, Notes, and Memories** (two labels). These are labels for the note box described below. Because this phrase uses more characters than you can fit in the Field Name field, split the phrase in half, make two labels, and line them up next to each other.

• **C** (a note box) — Put things in this field like names of people you met, phone numbers, memories (e.g. "Almost got mugged in Hampstead Heath in London") or notes (e.g. "visit Cornwall next time"). The title associated with a Notes field always goes to the left of the field. If I had titled it "Contacts, Notes, and Memories"

the field displayed in the individual Data Item view would have been very small. That is why I chose to create the two separate labels above and use a single letter ("C") to title this field.

Position and size the fields as described in the User's Guide.

With your Success Database you can reflect on your successes whenever you need inspiration. You can create Subsets to view your successes from different perspectives, ie., all the successes you have had in the "social" area of life. And you can see how much you've grown by reviewing the lessons you've learned in life, or remind yourself of people and places you want to visit again.

Paul Merrill
Associate Editor, HP Palmtop Paper

ENTERTAINMENT

Action Is Based on Rest

Everyone needs to get a rest from their activities, to withdraw so that they can come back to what they were doing, refreshed and more effective. An integral part of many Eastern cultures is contemplation and other practices that refine one's appreciation for beauty. Perhaps it's not surprising that Japan is the origin of a program where you can relax by watching trees grow on your Palmtop.

If you've ever enjoyed watching the movement of fish in aquarium, or waves at the beach, you will probably appreciate TREE.EXM ▣ .

TREE.EXM Screen

ON THE PALMTOP
TREE.EXM is a System Manager compliant program — in order to run it you have to install it on Application Manager and assign a "hotkey" to it to start it. It will then

be switchable.

To install the program in Application Manager — press [&...] (App Manager) [MENU] Application Add. Fill in the Name and Path fields. Press [F10] (OK), and assign it to a hot key.

Activate the program by pressing the hotkey combination you have chosen, then [F5] (Draw), and trees begin to manifest one by one, branch by branch. When the program pauses, press [F5] again to add more trees or [F6] to start over.

For those of us who can't resist fiddling, there are a number of options. Press [F3] (Params) or [F4] (Advance) to control the speed at which trees are drawn, the number of trees drawn, the dimensions of the trees, and so forth. I have the program set on auto-start and auto-repeat so trees start forming as soon as the program starts. After the program is finished with a screen, it pauses for five seconds, erases the existing screen, and starts afresh.

Another TREE.EXM option is "Boulevard", which is shown in the following screen.

Trees lining "Boulevard"

To start Boulevard, press [F3] (Params) and select Boulevard. The trees appear along an imaginary boulevard that you are in the middle of.

And you can mix and match — you can start a screen off in Tree, switch to Boulevard, and vary the contrast on each successive group of tress. If you like one of the resulting screens you create, you can save it as a PCX file (from the screen you like, press [F10] (Save), type FILENAME.PCX) which you can use as an opening screen topcard or display and edit in another graphics program that reads PCX files.

Thanks to Shozo Ito for providing the English translation.

Hal Goldstein
Publisher, The HP Palmtop Paper

Please — More Articles from Palmtop Users in "Other" Countries

Even though Hewlett-Packard doesn't hold a big market share in Argentina, the number of HP Palmtop users here is increasing. The need to be up-to-date with Palmtop news is mandatory. *The HP Palmtop Paper* fills an evident gap between Hewlett-Packard and their Palmtop users, especially here in Argentina where we don't have a single user's group.

As a subscriber, I would like to point out what I consider are some Palmtop Paper drawbacks.

❑ I haven't seen any articles related to my profession, land surveying. Since we surveyors are among the most eager consumers of HP handheld products, I and my colleagues would be very glad to see someone on your staff write something about our business.

❑ Another weak point is the fact I have seen very few articles from outside of the USA. I am not just talking about the foreign countries that American readers know the most, ie., France, Italy, Germany, Korea, etc. Down here, far south of the border, some really interesting things are going on.

As an example, in Argentina right now, in the state I live in, we are working on a project that will entail re-surveying approximately eight million urban lots alone. There are many opportunities for HP Palmtop users to effectively use their Palmtops in such tasks.

I think addressing some of these topics will broaden the scope of the magazine and increase its reader base.

Greatfully,

Hugo Mendez, PLS
La Plata, ARGENTINA

[The majority of our articles are submitted by our readers. That's what gives the Palmtop Paper its unique perspective and variety. If you haven't seen any articles relating to land surveying, it's only because no one has sent us one. We would welcome a proposal (possibly a User Profile) on this interesting subject. If you would like to volunteer for such a task, please let us know, and we will provide you with a brief "Writer's Guidelines" to help you formulate it into a usable article for The HP Palmtop Paper. (See page 48 for information on how to contact us.)

Probably the main reason there are fewer articles from outside the U.S.A. is because of the demographics of our subscriber base — the majority (65%) are from the United States. We welcome article submissions or proposals from outside the U.S.A. Since The HP Palmtop Paper is published in English, and since we are not set up to translate from other languages, articles must be submitted in English. Writers for whom English is a second language should have a good command of English and its idioms.

If you would like to send us a letter, tip, bit of Palmtop Wisdom, or some other smaller piece, please do. For those, a Writer's Guidelines is not necessary — Paul.]

Palmtop Goes Musical

I have recorded directly to my Palmtop from a Roland Sound Canvas MIDI sound module(SC-55). I've tried both recording and playback, and I've noticed no

problems. The Roland Sound Canvas MIDI comes with a convenient serial interface to a PC. Since the HP Palmtop's standard serial port works just like any other PC's, it ran perfectly. I've recorded from my MIDI synthesizer (keyboard) thru the Roland sound module to the Palmtop, and played back the sequences, no problems, no glitches at all.

Jeff Hirai
CompuServe ID: [74200,2450]

Palmtop More than a Sophisticated PIM

It seems to me that the image of the HP Palmtop your journal projects is primarily that of a sophisticated PIM, because of the emphasis which your editorial content places on the machine's relatively trivial Appointment Book, ToDo, PhoneBook, and suchlike applications. I feel that this editorial policy hardly does justice to our unique little machine's higher-level potential and all the ingenuity that went into its design.

I personally believe that the Palmtop Paper should cater a little more to the technically minded section of its readership and devote more space to articles by contributors like Mark Scardina and Ed Keefe. The Palmtop, after all, is supposed to be a very capable DOS machine, and not all your readers are complete beginners (as some of the Quick Tips would suggest).

Robert Amram
St-Cloud, FRANCE

[The readers of the Palmtop paper range from the expert to the first time user. For this reason, the Palmtop Paper tries to have a mix of articles, tips, etc., that are of interest to both groups. We appreciate your observation and will try and keep the "mix" of articles balanced. You'll notice that this particular issue has a lot of information for the technically sophisticated user — Paul.]
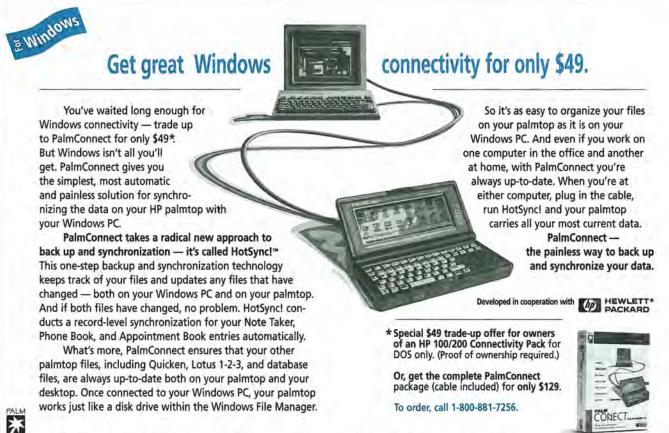
Palmtop Organizes Grocery Shopping

My wife recently broke her leg. Because of the severity of the break, she is saddled with an unusually heavy cast. She cannot do anything without assistance, so I have taken over as "caregiver" and head of running the household.

In order to bring some joy to my routine tasks, I started entering a running grocery list on my HP 100LX using the NoteTaker files. As I shop at the grocery store, I delete the items as I go down the aisles. Thus, I only have an active unfilled list on the screen. I find this more helpful and certainly more fun than carrying a written list with a pencil to cross off purchases made. Moreover, I am apparently somewhat of a curiosity in the local Harris-Teeter market, as many people ask me what the device is I hold so tenderly in my hand.

My wife only knows by manual, visual inspection the contents of her freezer. I took inventory of the freezer and added the contents to another NoteTaker file. When an item is withdrawn from the freezer compartment, I delete it from the list. I find this useful when I am in the grocery store, as I often see a special on a meat or frozen product. If it is not in my home freezer "inventory", I am more likely to purchase the "special."

Also, I would not ordinarily bother to check unit prices in the grocery store. But having the convenience of a built-in calculator in my HP 100LX, I often find myself checking unit costs.

Third Party Products of Interest to HP Palmtop Users

This section lists products new since the last issue and includes hardware, software, books, videos, training, and services of interest to HP Palmtop users. The icons above the product name indicate which Palmtop the product is suitable for: 95LX *for the 95LX,* 100/200LX *for the 100/200LX (in some cases, the product may be suitable for the 100LX or the 200LX, but not both). Prices listed are suggested retail.*

We invite vendors and subscribers to send us information about HP Palmtop-related products they discover. We rely on information we receive from the manufacturer and cannot test every piece of hardware or software. We welcome any user feedback on product suitability.

By Paul Merrill

Hardware

Cases

95LX 100/200LX

Leather Cases for Palmtops and Accessories

Three new leather cases are available from EduCALC:
- Palmtop and cellular phone case — Has spots for spare batteries, business cards, pen and pencil, PCMCIA cards and papers. Dimensions: 8" x 9.5" x 2". Black leather.
- Computer briefcase — Holds Palmtop and/or laptop. Also has places for PCMCIA cards, modem, cables, books, pens, etc. Comes with two outside pockets. Dimensions: 13" x 10.5" x 2". Black leather.
- PCMCIA card case — Holds four type I, three type II, or one type III card. A Velcro patch on the back lets

you place it where you want. Black leather.

[See advertisement, page 11.]

Availability .... Now
Pricing
  Palmtop/cellular $69.95
  Computer briefcase $119.00
  PCMCIA card case $9.95
CONTACT: *EduCALC , 27953 Cabot Rd, Laguna Niguel, CA, 92677, USA; Phone: 800-713-6526 or 714-582-2637; Fax: 714-582-1445.*

Card Drives

95LX 100/200LX

PCMCIA Card Drive for Mac, UNIX, and IBM Systems

This PCMCIA drive works with Apple Macintosh, UNIX Workstations, IBM compatible PCs, and other computers with an SCSI bus. Comes with two PCMCIA card slots (supports type I, II and III cards) and can be used internally or externally. Transfers up to 2.5MB of data per second.

Availability .... Now
Pricing: .... $Varies
CONTACT: *Adtron Corporation, 3050 S. Country Club Dr., Suite 24, Mesa, AZ, 85210, USA; Phone: 602-926-9324; Fax: 602-926-9359.*

Cleaner

95LX 100/200LX

Microfiber Cleaning Cloth

A chemically free, high density cleaning cloth used to clean dirt, oily film, etc., from smooth surfaces without lint or static buildup, or scratching. *Tech Cloth* can be used on computer screens, mouse pads, CD-Rom discs, and other electronics. Reusable and washable. Sizes vary. Available through retailers.

Availability .... Now
Pricing: 9" x 9" $12
CONTACT: *OptiTech International, Inc., Suite 2140, 500 Grant St., Pittsburgh, PA 15219, USA; Phone: 412-471-7870; Fax: 412-471-8988.*

Wireless

100/200LX

Wireless Radio Frequency Docking Station

Place your Palmtop in this wireless docking station to be able to send and receive E-mail, send faxes, access a remote computer, the Internet and other BBS's. Comprised of an internal, programmable wireless modem, antenna, software and optional wireline modem. Weight 1.7 lbs.

Availability .... Now

Pricing $1,495
CONTACT: *EnBloc, Inc., 6441 S.W. Canyon Court, Suite 280, Portland, Oregon, 97221, USA; Phone: 503-292-3252; Fax: 503-292-3365; BBS: enbloc@broughton.com*

Software

Writing/Development

95LX 100/200LX

Thoughtline

Use this writing tool to help you conceptualize, develop and organize your writing project. Start with an idea and end up with a rough draft that you can print, view onscreen, or import to your wordprocessor for editing. Uses 640K of RAM.

Availability .... Now
Medium .... Floppy disk
Pricing $79.95
CONTACT: *Experience In Software, 2000 Hearst Avenue, Berkeley, CA, 94709; USA; Phone: 800-678-7008 or 510-644-0694; Fax: 510-644-3823.*

Connectivity

95LX 100/200LX

IntelliLink for Windows Ver. 3.3.1 Now Available

Use IntelliLink for Windows to exchange data between your Palmtop's built-in applications and the different format of another application on a PC or PDA. IntelliLink 3.3.1 supports ACT! for Windows 1.1 and 2.0, ASCII (CSV) Files, CaLANdar 2.55, Commence 2.x, dBASE III/IV, ECCO, Excel 5.0, Lotus Organizer

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1.x/2.0, Microsoft Schedule Plus, PackRat 4.1, Paradox, Sidekick 2.0 for DOS, Windows Cardfile and Calendar, WordPerfect for Windows 6.0, Word for Windows 6.0, Casio B.O.S.S., Casio Z-7000, Franklin Organiz-It Digital Book System, HP 95/100/200LX, HP OmniBook, Psion Series 3/3A, Sharp Wizard, Sharp Zaurus, Tandy Z-PDA.

[See advertisement, page 4.]

Availability .... Now
Medium .... Floppy disk
Pricing $99.95
   Upgrade $39.95
CONTACT: *IntelliLink, 1 Tara Blvd, Suite 210, Nashua, NH, 03062, USA; Phone: 603-888-0666; Fax: 603-888-9817.*

Programming

100/200LX

Compact High Level Programming Language

Use this "event driven" programming language to program business type applications on your Palmtop or desktop. QPRO 4 is a high level programming language that only uses 100K of RAM. Custom applications can be run on both 1MB and 2MB Palmtops.

Written entirely in Assembly language, QPRO 4's run time module is 90K. Formatted data entry entry screens are created with WYSIWYG screen editor. Language includes pop-up windows, point and shoot data selection, light bar menus, complete screen management and two dimensional tables.

A multikey B+ tree index sequential file handler is

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included. You can have up to 9 multifield indices and up to 100 files open simultaneously. Japanese language version and evaluation versions available. For more information, contact vendor.

[See advertisement, page 38.]

Availability .... Now
Medium .... Floppy disk
Pricing $89.95
CONTACT: *QNE International, Inc., 136 Granite Hill Ct., Langhorn, PA, 19047, USA; Phone: 800-333-0448; Fax: 215-968-3550; BBS: 71327.1203@compuserve.com*

Foreign Languages

100/200LX

More Languages Available

The Entente Corporation announces the availability of the following language translator programs using non-latin based alphabets: Russian, Arabic, Chinese (using Taiwanese alphabet), Japanese (Hiragana), and Korean. This adds to the list of previously available languages:Spanish, French, Portuguese, Italian, German, Hungarian, Polish, Serbo-Croation, Chinese (mainland, Latin-alphabet-based phonetic method), and Japanese (Latin alphabet "Romaji"). Contact Entente Corporation for information or see page 14, Volume 4, Number 3, 1995.

Availability .... Now
Medium .... Floppy disk
Pricing:
   English & 1 language $49.95
   Ea. additional language ... $29.95
CONTACT: *Entente Corporation, 1441 Mariposa Ave., Boulder, CO. 80302, USA; Phone: 800-409-1701; BBS: ramole@aol.com*

Run Your Desktop PC from your HP 100/200LX by Phone

pcANYWHERE lets you use your HP 100LX or 200LX and a modem to access your desktop PC in the office or on the road, to transfer files and run programs.

[Note: the software in this article was tested on an HP 100LX. The points should also be valid on the HP 200LX. Later versions of pcANYWHERE (5.0 and above) require a 286 or greater processor and do not work on the HP Palmtops. This article covers pcANYWHERE Ver.4.5, which is still available through Symantec. See page 47 for Symantec contact information.]

By Craug Payne

For some time I've used pcANY-WHERE on my desktop PC in Utah to access the home office PC in California. It's a robust and reliable program that has let me transfer up to 20MB of compressed files via modem and phone lines without any problems. However, occasionally I'd be on the road and need to access the home office computer. It was a little frustrating until I discovered that pcANYWHERE /Remote V4.5 works flawlessly on my 100LX.

Using pcANYWHERE Remote on the HP 100/200LX

pcANYWHERE is more than a file transfer program. It's a remote access program that lets you remotely run one PC computer from another. A "host" computer runs the main pcANYWHERE program and a "remote" computer runs a smaller program (AWRE-MOTE) that lets it control the host. Remember those terms: "host" (a desktop) gets controlled by the "remote" (a Palmtop).

I copied the AW_REMOT directory (862,073 bytes) onto a SunDisk SDPL5-5, 5 volt, 5MB (no Stacker) PCMCIA card. I used the standard HP Connectivity Cable (F1015A) and the modem adapter from the HP Adapter kit (F1023A) to connect the 100LX to a US Robotics V.32bis modem. I have pcANYWHERE on my desktop configured so that when I call in from my other office, the desktop automatically hangs up and calls me back. This trick keeps me from racking up a big phone bill and having to go through the process of submitting paperwork for reimbursement. Unfortunately, the automatic dial-back feature can not be used while traveling since the host doesn't know your current phone number.

This arrangement worked fine on the 100LX. The minimum set of files needed to run the Remote part of pcANYWHERE 4.5 is:

```
File . . . . . .Filesize Kb

AWREMOTE.EXE  . . . .413,770
AWR.MSG . . . . . . .214,762
BTRIEVE.EXE . . . . .42,524
AW.RC . . . . . . . .12,182
AW.HW . . . . . . . .14,096
AW.HI1 . . . . . . . .6,144

Total:  . . . . . . .683,478
```

If I eliminated any of these files AWREMOTE.EXE bombed out with an error message. AW.RC1, AW.HW1, and AW.HI1 contain my specific configuration information. Since your configuration may be different than mine, these files may have different sizes on your machine. You may be able to use a file compression program like Diet⊟ or Stacker to cut disk storage requirements in half.

Setting up remote control software is painful, but do-able. Here is some advice:

1. Use the same type of modem on both ends. V.32bis is getting more "standard" but it is not perfect. At least try your modems together and return one if it can't connect reliably.

2. Do a test run. Try out your configuration in a room with both machines, modems and two phone lines. Debugging this stuff when the machines are physically separate is tough.

3. If you haven't bought your modems yet make sure they are both V.32bis. 2400 baud is livable but sluggish. A V.32bis is cheap these days and will soon pay for itself in connect time. There was a review of V.32bis modems in PC Magazine, June 29, 1994, volume 12. The Practical Peripherals Inc. 14.4 pocket was one of the Editor's Choices. There is also an inter-operability chart on page 282 of the same article which will be very helpful when choosing modems for this purpose.

Software I ran remotely; files I transferred

I was able to run the following desktop software remotely from my HP 100LX: cc:Mail for DOS

WordPerfect 5.1 page preview screen as
seen on the HP 100LX

(network version), Xtree Gold 2.5,
Brief 3.0 and Lotus Magellan.

I was also able to run
WordPerfect 5.1 remotely. Most
amazing to me was that I was able
to use WordPerfect 5.1's page pre-
view when it was running in VGA
640 X 480 black and white mode.

With the 100LX screen in 640 X
200 mode the horizontal resolution
was fine, but it was vertically
squashed. I would grade it usable
in a pinch. The screen on the desk-
top PC was in black and white so I
don't know if or how pcANY-
WHERE would handle color map-
ping to the 100LX's 640 X 200 mode.

I was also able to run a simple
CGA-graphics application (320 X
200 in four colors). Running in any
graphic mode is much slower than

Running pcANYWHERE
on the HP 95LX

Page 46 of the March/April 1993
issue of The HP Palmtop Paper has
an article by J. D. Fleming, Jr.
describing in detail how to set up the
95LX to run pcANYWHERE 4.5. The
95LX cannot run AWREMOTE so you
have to use the built-in COMM pro-
gram or another DOS communication
program. J.D. used SuperKey to
make keyboard macros that would let
him access function keys on the
desktop PC that were unavailable in
the 95LX VT-100 emulation. He also
used SuperKey macros to scroll
around the 80x25 screens displayed
on the 95LX's smaller 40x16 screen.
The 95LX does not display CGA,
EGA, or VGA graphics. If the screen
display of the program running on the
host requires these modes, you won't
be able to see it on the 95LX's
screen. In addition, programs config-
ured to display in color may not dis-
play properly on the 95LX's mono-
chrome screen. You may also
encounter some word wrapping prob-
lems, due to the 95LX's 40 column
screen.

Alternatives to pcANYWHERE

PCREMOT2

I cannot run pcANYWHERE on the HP 100LX because: (a) it requires about 630K disk space; and
(b) because I use a Megahertz Xjack 14.4 PCMCIA modem. Since I have to remove the SunDisk
flashcard to use the modem, I have no room on drive C to run pcANYWHERE.

Instead, I use a freeware program found on CompuServe in ZiffNET (TIPS/PC Magazine Utilities)
called PCREMOT2 by Terry Lahman and Kevin Sims. It lets a remote PC control the keyboard and
monitor the screen of a host PC through modems or a null-modem cable. It's not flashy, only CGA
or MDA text, and does not support graphics. But it fits easily on the C drive since it requires only
37K of disk space (only 12K if you get rid of the SETUP.EXE program after finishing your initial
setup, or moving it to the A drive). It even supports two-way file transfer with a special version of
ZCOPY.COM, included in PCREM2.ZIP. I use it on my HP 100LX when I am traveling, to retrieve
my E-Mail from a Microsoft Mail post-office.

David G. Vickers

*[Editor's Note: We installed PCREMOT2 on a SunDisk flashcard and used the HP connectivity
cable to connect to a desktop PC. At the 19,200 baud rate, the 100LX screen could not keep up —
about half way through writing, the characters would start appearing in random location on the
screen. This made it a little difficult to read. Switching to the default, 1,200 baud, the screen worked
normally.*

*Text only programs or DOS commands were easy to run. However, DOS programs that use
graphics or pull down menus may give you some problems. For instance, the DOS EDIT program
would load and you could enter text, but it would lock up after pressing [ALT]-File Save As to save a
file. The ZCOPY file transfer program mentioned above was easy to use. Just press [ALT]-Transfer,
select Upload or Download and give the full path of the file and its destination. This looks like a very
handy way to transfer files to and from your office computer.*

*In general, PCREMOT2 seems to work better if you are not running Windows on the desktop
or System Manager on the Palmtop. You will have to experiment to find what combinations of soft-
ware and hardware will work with PCREMOT2 on your system. We did not do extensive testing.]*

Reachout Remote

If you haven't tried it, get a copy of Reachout Remote (RR) from Stack Electronics (619-794-4777).
.It works bushels better than pcANYWHERE with the OmniBook 300, and preliminary trials with the
100LX look good.

I have not used RR extensively with the 100LX yet, but so far have found only one quirk. If I
access WordPerfect 5.1 or Office 3.0 (for E-mail) on my desktop (an HP Vectra QS/16S), everything
works right except that it seems to be necessary to hold down the shift key in order to get the cursor
control keys to work properly. That aside, this thing is a whiz.

I use it both for remote access by phone and for file manipulation in the office. RR has a great
file manager, and it's far easier to use, in my opinion, than LapLink Remote, one of the 200LX's
built-in applications.

J.D. Fleming, Jr.
CompuServe ID: [76376,2022]

CloseUp

Our office computers are connected with Novell Netware, and we use a single dedicated computer
running CloseUp ver. 6 and connected to a modem to provide remote access. Once connected, the
remote caller can check his E-mail as well as work with files and programs on the file servers or the
dedicated CloseUp computer.

When I first got my 200LX I never dreamed that I could use it as a remote user to our office
network. However, it turned out to be quite simple. I placed CloseUp on the C drive (I need to
remove the A drive in order to use the modem) and ran it just like I normally would. I only needed
two files on the Palmtop: CREMOTE.EXE (272K) and CLOSE_UP.MNU (658 Bytes). I told the
Palmtop that the computer had a black-and-white monitor, to use the COM2 port at 19,200 baud,
and I was connected. *(Excerpt from User Profile by Chris Lott, Vol. 4, No. 1, 1995, page 30 of The
HP Palmtop Paper.)*

using a text mode even with V.32bis. If you can, configure the applications you will be using for 80 x 25 text in black and white. With many programs it is possible to have more than one configuration so you could have color when using your desktop directly, and black and white when running it remotely. You may have to play games with batch files that copy configuration files around. Some programs have command-line options like "/m" that will start up in monochrome.

I used the pcANYWHERE utility AWSEND on the desktop PC to send a 47K file to the 100LX and back to the desktop machine. AWSEND also transfers Word-Perfect 5.1 files. The 100LX received the file in 39.5 seconds and sent it in 29.1 seconds. V.32bis is limited to 14.4 K baud but it also does up to 4/1 compression (on a very good day with a tail wind). The throughput on the 100LX was roughly comparable to what I get when using my desktop PC remotely to another desktop.

Using Datacomm to access pcANYWHERE

You can also use the Palmtop's built-in Datacomm application to dial into AWHOST on the desktop PC. This approach saves having to load 300K to 600K of pcANY-WHERE's software on your 100LX. pcANYWHERE supports ANSI and VT-100 terminals, which the Datacomm application on the Palmtop can emulate. (See "Calling a Host from a Terminal," page 230 of 4.5's documentation). However, performance using Datacomm is a bit sluggish. Fortunately, there are other alternatives.

ProComm or TeleMate are fairly small communications programs and are more responsive than the built-in Datacomm. TeleMate is better than my old copy of ProComm because you can turn the status line off and get 25 lines. After installation I was able to cut Telemate 3.01 down to about 300K. The latest version 4.12, but I don't know how big it is. (TeleMate is available on CompuServe's IBM-COM forum. Download the follow-

ing files: TM4201.ZIP, TM4202.ZIP, TM4203.ZIP and TM4204.ZIP.)

So that the display of the desktop PC fits the 100LX screen, make sure that the desktop PC's screen is set up for 80x25. Also, make sure you have a full 25 lines in Data-Comm or your other communications program. Fn-ZOOM should eliminate the title line at the top and the status line at the bottom. Also, ESC-T and ESC-B are pc-ANYWHERE commands that should make bottom lines visible.

pcANYWHERE gives best results

I use pcANYWHERE every day and have tried other remote access programs. pcANYWHERE works flawlessly on my 100LX and has consistently given me the best results. If you need to transfer files and run another PC from a distance, this package is definitely worth your consideration.

Programmer's Corner

The New and Improved HP Palmtop Developer's Guide

Programming is fun and can be lucrative — If you're thinking about writing software for the HP Palmtop, this book has the information you need to know. `

By Ed Keefe

The HP 100/200LX Developer's Guide is a book packed with information about the inner secrets of the HP Palmtops. It is intended for software and hardware developers who want to create products for the HP Palmtop computers. The original edition was available only to those who had been accepted into the HP developers program. The original guide, along with a computer disk containing proprietary software, was provided gratis by HP.The Revised Edition of the Developer's Guide, out since October 1994 and still referred to as a "preliminary copy", supersedes the initial release and is available to the general public. It comes with a disk full of software and costs $75.00.

This article presents an outline of the Revised Edition with as much detail as space allows and indicates which parts of the Guide are new or improved. No attempt has been made to assess the accuracy of the information in the Guide.

Overview of the Palmtop from a programmer's perspective

For those thinking of developing software for the HP Palmtops for the first time, here is an overview of the machine from a programmer's perspective.

Think of the HP 100/200LX as a miniature PC XT computer that uses an Intel 80186 microprocessor and comes with MS-DOS 5.0 built into the Palmtop's ROM memory. 5.0 is the last version of MS-DOS that will be able to be built into ROM memory.

The non-backlit, LCD screen has a pixel count of 640 X 200 and emulates a CGA screen with four gray scales. The keyboard uses extended keycodes and is software driven rather than driven by a dedicated controller. The machine does not support EMS/XMS memory. It comes with either 1MB or 2MB of RAM which may be partitioned between working RAM and an Edisk, designated as the C drive. The Palmtops have one PCMCIA Type 2 card slot, a standard serial port (COM1:), and an infra-red transmitter-receiver, but no parallel port.

The HP Palmtops feature an extension to MS-DOS: Lotus' System Manager, which lets a user task-swap between various built-in programs at the touch of a hot-key.

Three levels of programming

Three levels of programming may be employed for the HP Palmtops.

At the first level you can leverage the fact that the HP 100/200LX emulates an Intel 8086, DOS machine. So if your programs run on a PC XT computer, they'll most likely run on the 100/200LX. Even some TSR programs and device drivers will run. However, TSRs that write to a text-mode screen can't pop-up over the built in software which uses a graphics-mode screen.

At this level of programming, you can use any computer language. C and Assembler programmers may write programs that use any of the memory models common to Intel-based machines. Many people have written generic DOS programs for the 100/200LX without referring to the Developer's Guide.

The second level of programming involves writing programs that have the look and feel of the built-in applications. Such pro-

ABOUT THE AUTHOR:

Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for HP computers. He is the president of the FastAid Company, 314 S.W. Logan, Ankeny, IA 50021. Ed's CompuServe ID# is [75300,3667].

grams will have a .COM or .EXE extension but will emulate the graphical user interface of the Palmtops. Here too, almost any computer language will work as long as it supports CGA graphics. As of this writing several C programmers are working on function libraries that emulate those provided by HP. (For more information on this, see the PAL article on page xx of this issue.) So for this level of, programming the Developer's Guide would be optional.

The third level involves creating programs that rely on the Lotus System Manager Application Programming Interface (API) and the Lotus Handheld API (LHAPI). For this level of programming, you will need the Developer's Guide. HP also recommends using Microsoft C 6.00 AX and/or MASM 5.1 as programming languages. Other compilers may get the job done, but none of them

have been tested by HP or Lotus and the Developer's Guide doesn't support them.

At this level of programming you can access code that is built into the Palmtop, making your job a little easier. Your programs will be able to task-swap with the built-in applications and may even have some of the features of the built-in database engine.

The restrictions are that neither your code or your data segment may exceed 64K. And you can't use the standard "**argv**, **argc**, or **env**" variables.

In this type of programming you develop a working .EXE program using C. When you've completely

debugged the code, you run a program called E2M.EXE to convert an .EXE program to one that ends with .EXM. This will make your program "System Manager compliant".

Programmers who are familiar with event-driven programming like that used in Windows, will be at a distinct advantage. Procedurally oriented programmers will have a moderately steep learning curve. Object oriented programmers will probably experience confusion and disappointment.

The Developer's Guide refers to "objects, classes, and messages." However the terms are used in a non-standard fashion, certainly not

What's in the Revised HP Palmtop Developer's Guide

Here is a partial table of contents for the new Developer's Guide. Topics that are new to this version of the Guide are flagged with the word [NEW].

the same meanings given to these terms in modern C++.

What's in it for you?

The Developer's Guide is strictly a reference manual. It does contain some computer code, but in no sense is it a "how to" manual. It assumes familiarity with the C programming language and/or PC Assembler. The hardware section of the manual assumes that you're able to read block diagrams and can interpret electronic specification charts.

A partial list of the Developer's Guide Table of Contents is found in the sidebar below.

How new is new?

To evaluate the Revised Developer's Guide, I put it alongside the initial version and spent the better part of three days comparing them.

The first thing that caught my attention was the improved appearance of the revised document. Gone are the smudged pages, the barely legible handwritten notes, the rubber-stamped dates, the upside down pages, and the deskjet printer font.

The new edition uses a LaserJet (or typeset) font that produces more white-space per page. There's a new Table of Contents and a rela-

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Files on the Developer's Disk

The disks that come with the Revised Developer's Guide contain 139 files, about 1.97 MegaBytes. Following is a general description of the files contained in each subdirectory on the disks with a listing of the file name:

README.TXT contains unpacking information and license agreement.

DOCS** contains 5 files (14,803 bytes) with the descriptions of the editor, icon and world database files. **GLEDFF.TXT, ICON.TXT, LONGMATH.TXT, MEMOED.TXT, WORLDDAT.TXT.

DOCS\DBDOC** contains 4 files (139,401 bytes) that describe the internal formats of the database files. **DB.TXT, APPTDOC.TXT, RADIO.TXT, DBDOC.TXT.

DOCS\GRAPH100** contains 3 files (55,057 bytes) of low-level graphics support for the 100/200LX. **COUGRAPH.ASM, GRAPH.DOC, COUGRAPH.H

HEADERS** contains 39 files (486,721 bytes) of C header files needed for creating .EXM programs on the 100/200LX. **CHKTSR.C, DOSFILE.H, DTN_EDIT.H, LSTRING.H, IC.H, DB_PVT.H, KEYTAB.H, M_CALLS.H, DATETIME.H, CHTYPE.H, G.H, HELP.H, APPTS.H, G_SM.H, DB_SM.H, RESBUILD.H, CAP2.H, M_DEFS.H, SYSMGR.H, SYSDEFS.H, EVENT.H, M_ERROR.H, FILEIO.H, LHAPI.H, DB.H, SETTINGS.H, INTERFAC.H, COMIO.H, TASK.H, COUGRAPH.H, GLED.H, M_TIME.H, CBCODES.H, COMERRS.H. It also includes **GLED.INC** an assembler include file and the macro files, **SYSDEFS.MAC, TASK.MAC, SERVICES.MAC, INTERFAC.MAC.**

LIBS** contains 20 files (262,764 bytes) of Object and library files for use with C and assembler compilers. **BB.LIB, GLED.LIB, CAPREA.LIB, TSR.LIB, MCSVC_HP.LIB, SCSVC_HP.LIB, SRSBLD.LIB, MRSBLD.LIB, MLHSTUB.LIB, SCSVC.LIB, MCSVC.LIB, CAPEMU.LIB, CAPTKO.LIB, SLHSTUB.LIB, CHTYPE.OBJ, COUGRAPH.OBJ, GLED.OBJ, DOSFILE.OBJ, LSTRING.OBJ, DATETIME.OBJ.

SAMPLES** has 4 files (28,927 bytes) that contain the source code for a keyboard stuffing, TSR program on the 100LX. The .COM file for the 200LX is contained in D:\BIN directory on that machine. **KEY100.ASM, KEY100.COM, KEY100.FIX, KEY100.TXT.

SAMPLES\HEXCALC** has 9 files (62,878 bytes) that contain Andy Gryc's hex/bin/dec calculator written as an example of an EXM program. **MAKEFILE, M.BAT, CHKTSR.C, HEXCALC.C, E2M.EXE, HEXCALC.EXM, HEXCALC.ICN, COUGAR.MAK, DOSFILE.OBJ.

SAMPLES\PAL** has 30 files (173,906 bytes) that allow changing the colors on the CPACK100 program on the desktop. There's no guarantee that this will work with the CPACK200. **MAKEFILE, COUG.ASM, CHKTSR.ASM, MAK.BAT, PAL.C, HELP.C, PALMAIN.C, CHKTSR.COM, PALHELP.EQU, CHKTSR.EXE, PAL.EXE, PALHELP.H, PAL.H, PALERRS.H, COUG.H, HELP.H, PALUS.HLP, PAL.HLP, PAL.HS, PAL.ICN, MAIN.LIB, COUGAR.MAK, PAL.MAP, PAL.OBJ, COUG.OBJ, HELP.OBJ, PALMAIN.OBJ, CPACK100.PAL, MAIN.RC, README.TXT.

SOURCE** has 4 files (25,453 bytes) of necessary include files for .EXM assembler and C programs. **CSVC.ASM, CRT0.ASM, DBEVENT.C, IC.C.

TOOLS** has 1 file (13,105 bytes) that converts a special .EXE file format into an EXM program. (The EXE file must be built with the SOURCE\ files above. **E2M.EXE.

TOOLS\DBDT** has 5 files (53,843 bytes) that contain a utility to dump a database file for fixing it up with a text editor. Largely supplanted by the GARLIC program. **DDT.C, UNDEAD.C, UNDEAD.DOC, DDT.EXE, UNDEAD.EXE.

TOOLS\DD** has 2 files (118,614 bytes) automate the design of dialog boxes in a database program. **DD.EXE, DD.TXT.

TOOLS\FIXEDA** has 2 files (1,650 bytes) fix errors from swapping memory cards. **FIXEDA.COM, FIXEDA.DOC.

TOOLS\ICON100** has 2 files (25,170 bytes) containing an icon viewer and editor. **ICN100LX.EXE, ICON.TXT.
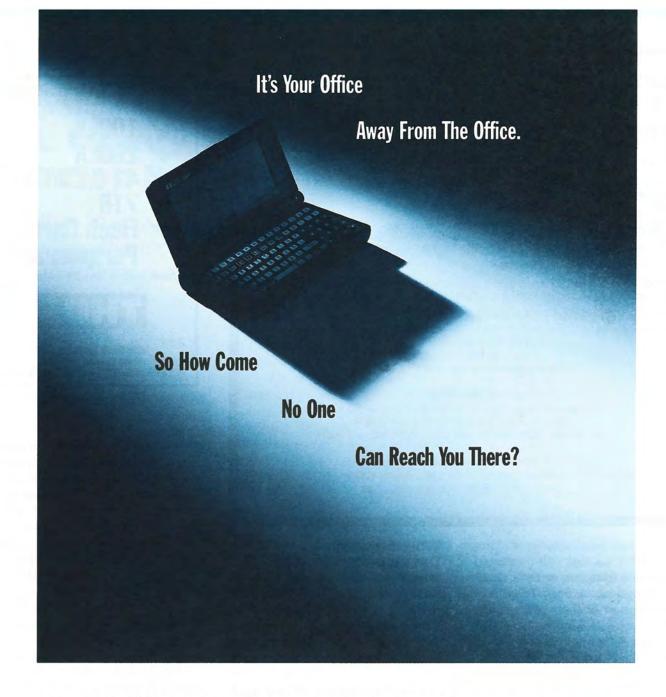
TSR** has 7 files (548,810 bytes) that Checks to see if the TKERNEL and CGAGRAPH TSR programs are resident before running a 100LX program on a desktop. **CHKTSR.ASM, CHKTSR.COM, CGAGRAPH.COM, CHKTSR.EXE, TKERNEL.EXE, CHKTSR.OBJ, JQBTAUS.RI.

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tively complete index. All the pages are numbered in a single sequence rather than in chapter-page format.

The next thing that raised an eyebrow was that some of the text material in the BIOS interrupt chapters is missing from the Revised Edition of the Guide. It's hard to tell if this is an oversight or if it was done intentionally. Much of the missing text was superfluous anyway.

Also gone are all allusions to "Cougar" and "Jaguar", and there is only a brief mention of the Lotus Resource Editor (REDITOR).

The first new material in the Guide starts on page 152. For the next forty or so pages there is a wealth of material dealing with System Manager Task Control Blocks (TCBs) and Intertask Communication (ITC). There is also a large amount of text devoted to writing normal TSR programs as

HP Palmtop Developer's Guide
Ordering Information

Thaddeus Computing will be distributing the HP 100LX/200LX Developers Guide. The HP Palmtop Developers Guide Kit consists of:

1. A printed, 3-hole punched, loose leaf copy of the Developers Guide.

2. A 3 1/2" inch disk containing HP developed and copyrighted freeware programs and utilities for Developers.

3. HP Palmtop PC Developer's Marketing Guide.

4. *The HP Palmtop Paper* Marketing Kit.

5. Marketing kit for "HP Palmtop Catalog" from Grapevine.

In addition from Thaddeus Computing:

6. PAL software tool kit - a collection of C source code for developing HP Palmtop applications from a collaborative effort of HP Palmtop developers on the CompuServe HPHAND forum.

7. Reprint of The HP Palmtop Paper reviews of the 100LX/200LX Developers Guide and the PAL project.

Developer's Guide Price $79.
Shipping $5 U.S., $12 outside U.S.
Marketing information only (points 3-5 above): $9

Order from
Thaddeus Computing, 57 E. Broadway, Fairfield, IA 52556.
800-809-5603, 515-472-1875, fax: 515-472-1879.
CompuServe: 75300,2443 Internet: 75300.2443@compuserve.com

Payment Method:
Visa, Mastercard, American Express or a check for U.S. dollars drawn on a U.S. ban.
Merchandise shipped on receipt of payment.

well as function calls for writing "special" TSRs that will be started by System Manager or by a third-party application. Such TSRs have the extension .TSR and are usually put in the C:_DAT directory.

This new section ends with some tips on developing a System Manager compliant application, and a page of time-sequenced memory maps of System Manager in action.

Another new section of the Guide (pages 239 to 245) deals with System Manager Event Management Services.

The section on Database formats (beginning on page 376) also appears to be new. However, much of this material has been made available in electronic form. Some of it even made it onto last year's *HP Palmtop Paper Subscriber's Power-Disk.*

The section on DOS is new to the Revised Edition, as is the section on PCMCIA cards.

Who needs the Developer's Guide

If you're a developer new to the HP 100/200LX you may be wondering if you need the Developer's Guide. On the other hand, if you're experienced at Palmtop programming, perhaps even a member of the HP ISV "club", you may be wondering if you should spring for the new revised version of the Guide. Here are some guidelines that may help you with these decisions.

If you're a "chips and dips" kind of person who wants to develop a hardware add-on for the HP 100/200LX then you'll absolutely need the Developer's Guide. It's the only known source of information about the pin-outs and power requirements of HP Palmtops.

If your job or the fulfillment of a software contract depends on your designing System Manager compliant software for the HP Palmtop, then by all means get the Developer's Guide. You can proba-

bly get your company to pay for it or you can charge it back to the contractee.

Or if you're a semi-professional programmer who has an application that may sell hundreds or thousands of copies, you will probably find the Guide useful indeed. The more your application adheres to the look and feel of the Palmtops' built-in software, the more likely it will appeal to the typical Palmtop user.

However, if you just want to try your hand at programming something for the HP 100/200LX, you might want to take a less expensive route and use one of the shareware/freeware C function libraries such as PAL (available in the HP Handhelds forum on CompuServe, discussed on page xx, this issue). Remember, a single DOS application can be made to swap back and forth with the built-in applications. You may not need full System Manager compliancy.

And finally, if you're not a C programmer, forget about the Developer's Guide. By the time you learn C and master the art of event-driven programming, the HP 200LX will have been superseded by the next generation of Palmtops, and will have gone the inevitable route of the out of date computer.

Programming:
PAL Library Simplifies Palmtop Programming

Use this library to give your DOS programs the look and feel of the built-in Palmtop applications.

IconVue is a sample menuing application for the Palmtop created with the help of the PAL programming library.

By Gilles Kohl

Programming the HP 100/200LX Palmtop PCs is in one way easy and another difficult. What makes it easy is that the HP Palmtops are DOS machines — any DOS program that runs on an XT class machine with a CGA display will run on the 100/ 200LX. Programming for the Palmtop becomes more difficult if one wants to write programs that operate under the Palmtop's System Manager. Writing System Manager compliant programs from scratch requires new tools and concepts, and porting existing DOS programs over is not all that easy.

Since you can set up DOS programs to run from Application Manager, or from the DOS prompt, why bother with System Manager compliancy at all? The answer: Users like the features of System Manager compliant programs, including the pull-down menus,, dialog boxes, hot-keys and cut-and-paste capabilities. Programmers were stuck between a rock and a hard place. It became evident that they needed a "PAL" to help them out.

PAL: The "Palmtop Application Library"

PAL is a collection of C language functions that provide DOS programs with the look & feel of the HP 100/ 200LX built-in applications. The library is the result of a common development effort from independent programmers located in the U.S., Canada, and Europe. Contributors communicate via e-mail and messages in Library 15 (Palmtop Programmers) of the CompuServe HPHAND forum.

When HPHAND Sysop Mark Scardina suggested the original concept and was looking for somebody to lead and coordinate the project, I volunteered. I liked the idea and knew that it could work from the impressive results of the Stone Soup Group, creators of FRACTINT .

Much of the work that was needed for PAL had already been done - HPCLIB, a graphics library written by Harry Konstas, served as a basis for what should become PAL.

PAL Includes everything but the C compiler

PAL comes complete with source code and many useful programming utilities. All the files in PAL are copyrighted freeware and may be used to develop public domain, shareware, or commercial applica-tions - there are no royalties or obligations beyond giving credit to the PAL group. All that is needed beyond PAL is an ANSI C compli-ant compiler. At the time of this writing, PAL comes with built-in support for the following C compil-ers:

Borland Turbo C,
Borland C++
Microsoft MSC
Microsoft QuickC
MIX PowerC
Symantec C++

Programmers can use PAL on both the Palmtop and on a desktop writing programs for the Palmtop. Complete documentation in ASCII text and hypertext formats is included in PAL. Sample source codes illustrate the use of the library.

The library provides graphics functions, support for windows, menus, bitmaps, icons, dialog boxes, configuration files, built-in and proportional fonts, and even access to System Manager specifics like the clipboard.

ABOUT THE AUTHOR:

Gilles Kohl is a native of Luxembourg living in Karlsruhe, Germany. He works as a software developer and project engineer for PROCAD GmbH & Co. KG, a german company specializing in CAD/CAM and electronic data-base management systems for technical applications. As a TeamHP mem-ber, Gilles enjoys helping other palmtop owners in the German and French section of the HPHAND forum on CompuServe. Gilles can be reached under CIS:100114,3146.

Programs created using PAL

Although the first 'official' version of PAL (numbered 1.0) has been available for a short time only, a number of applications have already been written, or are currently under development, that use PAL. Below is a list of some of these applications. Others are in development and should be available soon.

❏ **HV** ▪ (HTML viewer for the palmtop) -- This is one of the more ambitious projects to-date. HV can display hypertexts in the increasingly popular HTML format used on the World-Wide Web. There are many Gigabytes of valuable information available in HTML format - this information is now accessible from the palmtops.

The PAL HTML Viewer, showing a page of PAL documentation

In version 1.1 of HV one still has to download any documents to the HP before one can browse through them. Future versions of HV might directly access WWW documents on the Internet.

❏ **PFE** (PAL Font Editor) -- Though included as a tool with the library archive, this application is popular among non-programmers . PFE is an easy to use and powerful font modification and conversion tool. PFE displays the entire font visual-

The PAL Font Editor lets you edit the look of a character.

ly, and permits the user to select the character that he wants to edit.

Once a character is selected for modification, PFE can perform transformations beyond the setting or clearing of pixels, including rotation, scrolling, inversion, width and height alterations, and more.

❏ **ADBMOON** 🔒 -- This utility creates an Appointment Book .ADB file with moon phase information entered as appointments.

ADBMOON setup screen. ADBMOON lets you create Appointment Book .ADB file with moon phase data listed as appointments.

ADBMOON will prompt you for a starting and ending year, and other information, and create an ADB file that can be merged with an Appointment Book ADB data file.

❏ **PAT** 🔒 (Play Alarm Tune) -- This utility lets you play customized alarm tunes for different types of appointments. This way, it is easy to tell what kind of alarm is ringing, without even having to look at the display.

❏ **WEEK** -- Provides an improved weekly overview for the palmtop appointment book (in development). ꞌ

❏ **zAPP** (Application database editor, under development) -- Permits enhanced control of the Application Manager.

zAPP enhances the HP Palmtop's built-in Application Manager

"It's from my computer wiz brother. I asked him for `a file'...
... and he sends me FILER."

zAPP can be used to make Filer closeable, protect your installed applications from accidental deletion, change the AppManager hotkeys of built-in applications, or even entirely remove them from the list that AppManager displays.

Future additions

The great advantage of a library is that one can add as much functionality as one wants - programs that use the library only grow by the size of those functions that they are actually calling. So the potential for addition is endless. The next PAL version will have an entirely new module that permits handling of palmtop-specific files: phone databases, general databases, notes databases, application manager databases, and eventually even MEMO text files. In the dialog department, list boxes will be added, and a file selection box will be built using them. A help system is currently under development as well.

Thanks!

The following people are part of the PAL group, or have contributed in the past: (in alphabetical order)

Name .CompuServe ID

Ron Crain . . . .[70011,307]
Andreas Garzotto . . . .[73064,1657]
Gilles Kohl . . . .[100137,637]
Harry Konstas . . . .[72540,620]
Barry Marks . . . .[70020,527]
David Vickers . . . .[76334,3252]

How to get PAL

The latest version of PAL is available as PAL.ZIP 🔒, in library 15 of the HP Handhelds forum (GO HPHAND) on CompuServe. It is also available with the HP Palmtop Developers Kit (see page 16 for more information).

> **Product Index: page 47**
> **Share/Freeware Index: page 48**

A Detailed Look at PAL

PAL files come compressed in the .ZIP format. The files inside the ZIP are organized in 5 major subdirectories as described below.

1. General documentation
These files are kept in the PAL subdirectory \DOCS.

2. Library files
These will automatically be created by the PalMake utility, and reside in the \LIBS directory.

3. Useful utilities
The PAL utilities, located under \UTIL, simplify developing and compiling PAL programs, or accessing documentation:

PalMake (PM) — is a make utility that simplifies both the building of the library and the compiling process of any application written with PAL. PM is aware of several popular compilers and will automatically use the correct commands and switches. If PM is run from the \SRC directory, the complete library will be created.

PAL Font Editor (PFE) — The utility (written by Harry Konstas) supports character sets from 4x4 to 16x16 bits of size. It can load, edit, save and convert fonts in and between the native PAL format, the format used by Vertical Reader (VR ⧉), and the FCL format that was used to create the popular HELV fonts.

PAL Dialog Editor (PDE) — This utility permits on-screen visual development of user interface dialogs. Once a dialog has been 'drawn' on the screen, PDE will create the required resource files in C-source format, ready to link. It can optionally generate a test application that is ready to compile.

HTML viewer (HV) — HV (courtesy of Andreas Garzotto) can display hypertext documents in the increasingly popular HTML format - the same that is being used on the World Wide Web. The PAL reference can be converted into HTML format and HV can be used to view it.

Conversion utilities — A number of handy conversion utilities are part of PAL, including: PCX2IMG, which converts a black & white PCX file into the native 100/ 200LX IMG format; MKBIN, which converts a binary file into a 'C' source - useful for 'built-in' pictures and fonts; VFN2HFN, which converts any vertical reader 8/16 bit font (.VFN) to the PAL font format; NG2HTML, which creates a hypertext HTML file from the PAL .DOC files.

4. Sources directory
This directory contains the PAL C source codes, subdivided into 10 modules. There are functions for displaying windows, menus and dialogs, hardware related functions such as volume, serial port control and power management. Clipboard and sound support is included as well as multi-font output routines. Each function group has a .DOC file with the descriptions of all the functions in a standardized format. These descriptions can be read with any text editor (they are in ASCII format), but PAL also includes utilities to create Norton Guide and even HTML (the popular World Wide Web format) versions of the documentation, for easy and fast reference.

5. Samples directory
This contains a number of programming samples that illustrate programming in PAL.

PAL Source Code Directory; Function list and description

As mentioned in point 4 above, this subdirectory is divided into 10 modules. Below is a description of each module.

1. Low Level Graphics
The low-level graphics routines are interface functions to the palmtop-specific INT5Fh graphics calls. With these functions one can set graphics mode, pen color, pen position, select and display text using the built-in fonts, scroll, save and restore a rectangular area of the graphics screen, or define shape and blinkrate of the graphics cursor. The routines include the following:

- GraphMode : Switch to 640x200 monochrome graphics mode.
- TextMode : Switch to text mode.
- SelectFont : Select one of the 3 built-in fonts.
- SetColor : Select the pen color, black or white.
- SetRule : Set the graphics replacement rule.
- SetPos : Set the graphics pen coordinates.
- SetMask : Set fill mask.
- SetLineType : Set the graphics line type.
- SetClip : Define a rectangular clipping region.
- Scroll : Scroll a rectangular area of the screen.
- PlotDot : Set a pixel to current color.
- WriteText : Write text on the graphics screen.
- GetImg : Get and store a rectangular bitmap from screen.
- PutImg : Output a bitmap at a given coordinate position, with a given output rule.
- DefineCursor: Define the shape of the graphics cursor.
- BlinkRate : Specify the graphics cursor blink rate.
- Cursor : Cursor control function: (CURSOR_ON, CURSOR_OFF, CURSOR_BLINK, CURSOR_ NOBLINK , CURSOR_INIT).
- MoveCursor : Move graphics cursor to the specified X:Y location of the screen.
- SaveState : save the current PAL graphics state into a structure
- RestoreState: restore the graphics state from the above structure

2. High Level Graphics
The High-level graphics routines can be used to create lines, rectangles, and handle PCX and ICN images. Some of these functions are calling low-level graphics functions, and are used by higher-level routines in PAL such as windows and menus. The routines include the following:

- Line : Draw a line on the screen.
- Rectangle : Draw a rectangle on the screen.
- RevBlock : Reverse colors of an image block.
- ClrBlock : Fill an image block with WHITE or BLACK
- LoadImg : Load an image file (.ICN format) in memory.
- LoadPcx : Load an image file (.PCX format) in memory.
- SaveImg : Save an image (.ICN format) to a file.
- ShowKeys : Show function key definitions.
- ShowTopLine : Display title/

time strings on the top line.
- ShowTopTime : Display title & time on the top display line.
- FormatDate : Format a date string, in SysMgr format.
- FormatTime : Format a time string, in SysMgr format.

3. Miscellaneous functions
These are for special operations, such as control of the volume, serial port, light-sleep and timeout of the palmtop, reading scan and ASCII codes from a pressed key, and much more.

- PalInit : Initialize PAL library.
- PalDeInit : Shut down PAL library.
- FatalExit : Error exit from PAL and return code to DOS.
- Check5f : Check for presence of INT 5Fh services.
- CheckSysMgr : Check for presence of INT 7Eh (SysMgr) services.
- WhichHp : Returns the model number of the palmtop.
- AnnuncPos : Set the annunciators position (Shift,Fn).
- GetKey : Get a key (with ASCII and Scan code).
- KeyWaiting : Check if a key is waiting
- PushKeys : Push a sequence of keys for GetKey to deliver.
- Volume : Set the volume level of the palmtop.
- SetSerialPort: Turn on/off the serial port COM1.
- SetLightSleep Enable/disable light-sleep (Power-management).
- SetTimeOut : Set the timeout delay of the Auto-Power-Off.
- MsDelay : Wait a specific number of milliseconds.
- MsgBox : Display a message box with title, text and buttons.
- AskYesNo : Ask user Yes or No.

4. Window functions
The window functions can be used to create or remove a graphical window that displays information. As many windows as memory allows can be opened. A number of window styles are supported. The functions available are as follows:

- OpenWin : Open a window with a given style.
- CloseWin : Closes a window.
- WinText : Output text in a window.

5. Menu support
PAL menu functions support horizontal & vertical pull-down menus, hotkeys, line separators, bitmaps, and even scrollable menus. Menus are described in PAL using structures: a MENU structure that holds general information on the menu that PAL

should display, and a MENUITEM structure (actually, an array of these), that describes a single item of a menu. Each MENU structure represents a 'pulldown', and has a pointer to its item array. The functions include:

- HandleMenu : Handles the complete menu process.
- MenuSelect : Show a menu and let user select from it. Comparable to HandleMenu, but easier to call for simple menus - just pass a string containing the menu items to be displayed, separated by vertical bar characters.

6. Dialog box (data-entry) support

A dialog box is a special kind of window that handles user interaction. Inside of it, interface elements called 'controls' or 'dialog items' contain and handle the actual information. PAL currently has edit fields, check boxes, radio and control buttons, combo boxes, bitmaps, group frames, static labels, static line elements (separators), and the possibility to add your own custom-made items and handlers. (Comparable to Visual Basic custom controls that you can write yourself). The functions include:

- InitDialog : prepares a dialog to be used.

- SetDlgItem : used to set the value of a dialog item.
- ShowDialog : view dialog window and all its items.
- HandleDialog : will take care of user interaction.
- GetDlgItem : retrieve data from a dialog item.
- CloseDialog : close the dialog window, free all resources.

7. System Manager services

This is a subset of the HP System Manager functions that can be successfully called from non-SysMgr compliant DOS programs. The functions includeed:

- m_play : Play a sound string in HP alarm sound format.
- m_sound : Generate one of several sound patterns.
- m_soundoff : Turns off sounds generated by m_asound.
- m_open_cb : Claim access to the clipboard and lock it.
- m_cb_read : Read data from clipboard.
- m_cb_write : Write data to clipboard.
- m_fini_rep : Terminate writing to clipboard.
- m_close_cb : Releases the clipboard for access by other applications.
- m_new_rep : Prepare sending a new 'representation'.

- m_rep_index : Get info about a representation.
- m_reset_cb : Clear clipboard, get ownership.
- m_get_cb_info : Get clipboard state info.

8. Configuration file support

This set of functions allows easy retrieval of information from user-editable plain-text config files, much like the Windows WIN.INI files. The functions include:

- ReadConfig : Read config file given full name.
- ReadMyconfig : Read config, given program name (as in argv[0])
- GetConfigString : Retrieve a string from config data.
- GetConfigInt : Retrieve an integer from config data.
- GetFirstEntry : Used to scan sections: init scan.
- GetNextEntry : Used to scan sections: continue scan.
- GetCfgLine : Retrieve line number info during scan.
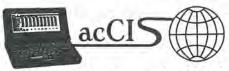
9. External font routines

These functions support loading and discarding of proportional fonts - also see the 'unified font routines' that provide a common interface to both internal (built-in) monospaced and external, proportional fonts.

- LoadHfn : Load a font in memory.
- InitHfn : Initialize a given font.
- WriteHfn : Writes a string using one of the loaded fonts.
- TextExtHfn : Compute text extent of a string in a given font.
- FontHeightHfn : Returns height of a given font.
- DiscardHfn : Discard a loaded font.

10. Unified font routines

The unified font routines permit transparent usage of both the built-in fonts and the loadable fonts that the HFN module supports. A font is identified by a handle with the unified font routines - regardless whether it is a built-in or a loadable font. A collection of loadable fonts is provided with PAL. The routines include:

- TextOut : Output a string at a given screen position in a font you specify.
- TextExt : Compute the length (in pixels) of a string in a given font, without actually drawing the characters.
- FontHeight : Returns the height of a given font in pixels.
- LoadFont : Loads an external font in memory.
- DiscardFont : Discards a font loaded by LoadFont, and recovers the memory associated with it.

User Profile:
Enabling the Disabled with the HP Palmtop

A woman with Parkinson's disease, who has difficulty moving and speaking, uses the HP Palmtop to communicate with the world.

By Jonathan Graham

My wife has Parkinson's disease. Although her mind is fine, she has poor control of the muscles needed to speak and write. Thus, communication (oral or written) is a major problem for her. This is one of the most frustrating effects of Parkinson's disease — you're ability to think is not impaired, but you're cut off from social interaction.

The first way we dealt with her decreased ability to write was to use a good old electric typewriter. This solution worked well until her motor movements slowed down further. At this point the repeat function of the typewriter became a problem. It is set up so that when you hold a key down, the typewriter generates the same letter over and over again. (The same function is found in computers.) Because she could no longer pull her fingers off the keys fast enough, she had to deal with an enormous number of corrections.

Although there are utility programs that disable the repeat function on computers, the size of a desktop typewriter or computer made its use as a means of communication difficult. For one thing, it tied my wife down to where the machine was located. And since her physical immobility affects her entire body, just getting to the typewriter (or desktop computer) is a major production. Also, because these devices are so big, using the keyboards was difficult and frustrating.

A Palmtop portable communications device
I was already using an HP 200LX in my business, mostly as a portable replacement for my notebook computer and to send and receive E-mail via the CompuServe Information Service. The Palmtop's small size made it an ideal candidate for a portable communications device that my wife could take with her wherever she went. I set out to customize it to suit her needs.

Creating a "no repeat" keyboard on the Palmtop
As you remember, the problem with any computer, including the Palmtop, is that if you hold a key down too long, the computer "types" out a long string of the character associated with that key (i.e. hold down ⌷z⌷ and you get zzzzzzzzz). People with impaired motor control tend to make a lot of these kinds of typing mistakes.

The HP Palmtop has its own CompuServe Forum (type **GO HP-HAND**), so I e-mailed the members of that Forum, asking them if a "no repeat" program was available to disable this feature. The next day I was sent a small program (NOREP) written for persons with mobility problems using DOS based computers. I transferred this little 195 byte program to my HP 200LX and placed the command line norep.com in my AUTOEXEC .BAT. When I pressed CTRL-ALT-DEL to reboot, it was loaded.

NOREP fixed the problem. Suddenly she could type again. The best part is that because she carries the Palmtop with her, she can type out messages and write letters whether she is sitting outside, on the sofa, in bed, or waiting in the doctors office.

QUICK-LX finishes your sentences for you
As my wife's speech degenerated, it became obvious that the HP 200LX had to be used to communicate on a daily level. Thus in conversation, I would speak and she would type out her end of the conversation on the Palmtop. Because of her very limited finger mobility, her typing is slow. This didn't matter when writing correspondence, but slowed "conversations" down quite a bit. We had to somehow speed this process up. I found
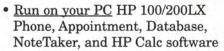
ABOUT THE AUTHOR:

Jonathan Graham is president of Nortek Holdings; a specialized group of companies supplying mega-yachts with navigation systems, control systems and hydraulics. Eva Graham, a Finnish citizen, is a former medical technician. She was diagnosed with Parkinson's disease 10 years ago. She has recently had two brain surgeries (pallidotomies) to help control this disability. Jonathan and Eva reside in Ft. Lauderdale, Florida. Their primary pastime is sportfishing. Questions and comments are welcome via CompuServe at [74277,3470].

another special program (designed for the HP 200LX only) that enabled her to type out complete ideas and sentences with fewer keystrokes.

QUICK-LX is a commercial program from Shier Systems & Software that "remembers" the words you type most often. When you start to type that word again, QUICK-LX pops a box up on the Palmtop display suggesting how you might finish the word. For example, lets say you've typed in the word "sophisticated" before. When you start typing in "sop" a box pops up, displaying "histicated."

This is a sample text entry in Memo. As we type along, QUICK-LX "remembers" the words we type most often and pops-up a box suggesting how we should finish the word. So if we type sop | histicated |

Type in "sop" on the Palmtop and QUICK-LX pops up a box with its suggestion on how to finish the word. Press RightArrow and QUICK-LX types it in for you.

Press the RightArrow key and QUICK-LX finishes the word for you. If the suggestion is wrong you can keep typing to finish the word. Here are some QUICK-LX features:

1. QUICK-LX learns automatically,

storing in its dictionary words that are typed more than 3 times in any document. When you then type the first 3 letters of the word (it can be programmed for more or less than 3 letters), the word pops up and you can use it or not.

2. You can set QUICK-LX up to recognize acronyms. Go into the QUICK.DAT dictionary file. Start a new line, for example:

asap= as soon as possible

This tells QUICK-LX that "asap" means "as soon as possible." Then, whenever you type **asap**, QUICK-LX will key in the complete phrase. A more practical example for our situation was to define "iwat" as "I would like a glass of water, please."

The ability to use these acronyms is wonderful. I use it for business and my wife uses it for daily communication.

3. A unique feature of this program is that it actually can keep 2 separate dictionaries. My wife is bilingual and must write in 2 languages — English and Swedish. QUICK-LX automatically determines which language you are writing in and uses the appropriate dictionary library. Very clever and practical for her use. (Actually she writes in 3 languages, but we just combine the Swedish and Finnish in the same "dictionary".)

Buddy saves more keystrokes

Buddy 2.0 ▣ is a utility for the HP 100/200LX that adds many useful features that save quite a lot of keystrokes. Here are some Buddy features that my wife finds particularly useful.

❑ SmartCaps — Buddy automatically knows when to capitalize many letters. For example, Buddy

knows to automatically capitalize "I" whenever it appears alone. It also knows to capitalize the first word in a sentence (i.e., the first letter to appear after a period and blank space, or the first).

When writing general text, the shift key must be used extensively to produce many punctuation marks (e.g., to create a question mark you have to press [SHIFT]-[3]). Again Buddy's SmartCaps feature came to the rescue by allowing us to remap most of the keys with punctuation marks. When activated, the feature reverses shifted values of selected keys. So, for example, when you want to key in a question mark you just press [3].

❑ DoubleClick — This feature lets you press a key twice to get its capitalized character instead of having to press the shift key and the character. It is handy, but you may have to adjust the "d-click timer" upwards for a person with impaired mobility. Lower d-click settings mean you have to press a key twice very quickly for its shifted value to appear. Higher d-click settings mean more time can pass between two key presses.

❑ Key remapping — Limited motor movement in the fingers caused my wife to continually hit the blue hotkeys on the HP 200LX, thus launching programs that she was not interested in or were difficult to get out of. Buddy's "Blue-Key Controls" screen let me reprogram these hotkeys so they did nothing.

❑ In addition, Buddy knows to automatically insert the apostrophe (shifted value of the 6 key) when keying in a contraction). So, for example, to enter the word "don't" you'd key in [d] [o] [n] [6] [t] and Buddy knows shift the 6 to enter the apostrophe.

This is only a fraction of the features of the BUDDY program. But it sure makes typing fast (about 30% faster as far as we can figure). Buddy 2.0 works on both the 100LX and 200LX. There is another version of Buddy ▣ for the HP 95LX.

Vertical Reader makes holding a book and turning pages easier

My wife's limited mobility also made it difficult for her to turn book pages to read. VR (vertical reader) helped solve that problem.

VR was developed for the HP Palmtop to enable the user to read E-texts from Project Gutenberg (see article, Vol.3, No.5, Pg.14). Project Gutenberg is a non-profit organization staffed by volunteers. It takes written material, mostly copyright free, transfers it to electronic format and makes it available free of charge to readers around the world.

VR displays the text of any ascii document vertically on the Palmtop screen. You simply turn the HP 200LX on its side (like a paperback book) and the text is sideways in a column. It is just like a single newspaper column. Reading is at least 3 times faster and easier. To "turn the page", just hit the space bar.

Entire books and libraries can be downloaded and read as easily as a book. In addition, VR can be programmed to read e-mail messages and threads with intelligent formatting...what an easy way to read through 50-100 messages! So now my wife can read books, articles and CompuServe messages more easily, anywhere, anytime.

acCIS simplifies communication via CompuServe

One way my wife stays in contact with the world is via CompuServe. She uses it instead of the telephone to keep in daily contact with family and friends.

I do most of the actual uploading and downloading of messages using acCIS on my HP 200LX. Although it's possible to connect up to CompuServe and compose messages "on line," this approach is expensive. CompuServe charges you a fee based on the time you are logged into a forum. acCIS cuts these connect charges by allowing my wife and I to compose all of our messages "off line" (i.e., while we are not connected to CompuServe). I then connect my Palmtop to a phone line via my PCMCIA modem card, log on to CompuServe using acCIS, and quickly "upload" all the messages we've composed. acCIS then "downloads" any e-mail messages waiting for us and disconnects from CompuServe. acCIS is designed for the HP 100/ 200LX, but may be used on any PC compatible computer.

After I download messages from CompuServe I'll give my wife my Palmtop to read her messages. She types out brief responses on my Palmtop and gives the Palmtop back to me to send them. If she wants to take her time writing a longer message, she types it up on her 200LX in Memo. I then transfer it to my unit via our IR ports or memory card, and e-mail it out for her.

Often I will download disability-related threads and move them to her Palmtop so she can read them with the Vertical Reader program described above.

Flexibility and features

One simple feature that turns out to be important to my wife is the fact that you can turn a Palmtop off without closing any application. The advantage of this is very real to a disabled person who can accidentally turn off the unit or move between applications. Another advantage about the programs I

have discussed is that they are System compliant in the HP 100/200LX. This means you can cut and paste between these applications and the built-in programs. More time and keystrokes saved.

The HP 200LX was not specifically designed for the disabled, but it's the one we chose to use. We tried other palmtop computers. Some had better displays and less complex operation. However, their keyboards did not have the HP's positive feedback and they lacked the ability to be customized. Because the Palmtop is a DOS computer, there are countless programs that can be used with it to customize it for new and unusual purposes. That customizability along with the built-in applications, the serial port, infrared port, and PCMCIA slot, add up to a very flexible computer that fits in your pocket, purse, or tucked into the side of a wheelchair.

The HP Palmtop has made a world of difference to my disabled wife's ability to communicate and interact to the world around her.

User profile:

HP Palmtop Helps Learning Disabled Student Remember Assignments and Bring Them Home

The combination of Appointment Book and NoteTaker helped this student with Attention Deficit Disorder (ADD) remember to write down her assignments and bring home materials needed to complete them.

By Jini Scammell-Tinling

My daughter, Heather, was diagnosed with two distinct disabilities when she was 9 years old (in between 3rd and 4th grade). The predominant problem is Attention Deficit Disorder (ADD). It is characterized by extreme distractibility which usually translated to an inability to complete assigned tasks. For instance, Heather was assigned the task of setting and clearing the table for dinner each night. It was common for me to call her back to her tasks 5 and 6 times before it was completed. This was a burden on everyone, but most especially on Heather's self esteem.

In addition, testing revealed a "hardwire" problem of translating information in her brain to a written page. She had trouble manipulating a pen for text, but is a wonderful artist, and has exceptional verbal skills and deductive reasoning. Our physician informed us that writing the letter L is more difficult for the brain than striking the L of a typewriter. The physician therefore recommended that Heather learn to type.

Unfortunately, ADD is NOT recognized as a disability by our district. Fortunately, the grammar school Resource Specialist (the individual who works with kids with a variety of disabilities) did not share the administration's attitude regarding kids with ADD. At the close of each school day, the Resource Specialist would visit 3 or 4 students at their desks as the students prepared to leave school for the day. In Heather's case, that meant insuring Heather had the assignments written down, and the appropriate papers and books necessary to complete the tasks. This proved to be an excellent solution. Heather seldom left information or books at school that were needed for that night's homework.

Palmtop replaces Resource Specialist

Our district has junior highs for grades 7 through 9, and I knew that when Heather graduated to the 7th grade, we would lose the services of the Elementary School Resource Specialist. Over the summer between Heather's 6th and 7th grade, I began trying to think of ways to give Heather the same services.

When I decided to buy the new 200LX, I hit upon the idea of passing my 100LX on to Heather. The Appointment Book alarm function seemed ideal as a way to remind Heather of things she had to do, and NoteTaker could be used to take down homework assignments.

Heather and I discussed how it would be set up, and how things would be handled. The only potential concern was that we did not know how the Junior High School administration felt about a student bringing a personal computer to school. Fortunately, once we explained the purpose of the Palmtop to Heather's teachers and the administration, there were no

ABOUT THE AUTHOR:

Jini Scammell-Tinling (right) is the Chief of the Division of Water Resources for the U.S. Fish and Wildlife Service, Sacramento, California office. Her avocations are computers, genealogy, the out of doors, and model building. She is a wife and mother of two, Heather and Colleen. Her husband, Steven Tinling, is a biomedical researcher and laboratory manager for the Department of Ear, Nose and Throat's Otology Laboratory at the University of California at Davis Medical School. Heather (left) has a bio in the second sidebar of this article.

objections. In fact, we received their whole-hearted endorsement of use of the HP 100LX.

Appointment Book an excellent reminder

As mentioned earlier, Heather needs to be reminded of tasks. Fortunately, the Appointment Book application on the Palmtop is an excellent reminder. Repeating appointments remind Heather to take her medication three times a day, at the right time. In addition, appointments remind Heather at the appropriate time to write down her homework assignments.

I have two appointments set for each class. The first goes off at the time the teacher normally gives homework assignments, displaying a message saying "Write down homework assignments." This appointment can be at the beginning or end of the class, depending on the teacher. The second appoint-

Sample Macro Fn+F1:
First class of the day

[Note: Sample files from this article are found in PROFILE.ZIP 🔳.]

Music is Heather's first class in the day, and the macro is a little different than the others. The Macro looks like this:

```
{More}{Menu}al{NoteTaker}{Menu}foa:\homework.ndb
{Enter}{Enter}{F2}{Date}{Alt+G}HOMEWORK{F3}{Time} MUSIC
```

The easiest way to create a System Macro is to record it as you press the keystrokes. For example, if you wanted to enter the first line of the above macro as the Fn+F1 macro, follow these steps:

1. Press [Shift]-[Fn] together and then whichever F-key you want to assign to the macro, (F1) for this example.

2. Begin entering the commands and keystrokes you want the macro to playback. For the first line of the above macro you would press these keys: [&...] [MENU] [A] [L] [CTRL]-[MEMO] [MENU].

3. End and save the macro by pressing [Shift]-[Fn] [F1] again.

Whenever you want to run the macro, press [Fn]-[F1]. You can also run the System Macro application from AppManager and key in the macro commands directly. For more on this, see "System macros" in the index of your *HP 100/200LX User's Guide.*

The first line of the macro above, up through {Enter}{Enter}, closes any other open applications, opens NoteTaker, and loads HOMEWORK.NDB, the NoteTaker file in which Heather keeps assignments. I chose to close all other applications to make sure there was enough memory available to load NoteTaker.

Since this is the first class of the day, {F2} adds a new NoteTaker item to contain the day's assignments. The {Date} command places the current date in the Title field of the new entry. {Alt+G} HOMEWORK moves the cursor to the Category field and enters "HOMEWORK" as the category. (Please note that I've set the date format on Heather's 100LX to YY-MM-DD — go to Setup and press (MENU) Options Date/Time — so the Note-Taker list sorts the items properly and displays the most current date at the top of the list.)

{F3} {Time} MUSIC: moves the cursor to the Notes field, enters the current time and "MUSIC", the name of the class. Note that the macro contains empty spaces between {Time} and MUSIC, and after MUSIC, so the time and the word "MUSIC" don't run together with the assignments Heather enters. The macro ends with the cursor positioned next to the word "MUSIC" in the Notes field, waiting for Heather to type in the assignment and press [F10] to save the note.

Additional Assignment Macros

The first macro is different because it creates a new NoteTaker entry for the day. Since all the assignments for that day are stored in the same NoteTaker item, subsequent macros for Heather's other classes don't need to add another entry with the macro commands {F2}{Date} {Alt+G} HOMEWORK. This part of the macro is replaced in other macros by {F4} {Date}{Enter}, which searches for the NoteTaker item with the current date. Subsequent macros also differ from the first in that they end with commands {F3}{Ctrl+End}, which open the Note field and move to the end of it.

```
Fn+F1: MUSIC (in article)

Fn+F2: SOCIAL STUDIES
{More}{Menu}al{NoteTaker}{Menu}
foa:\homework.ndb{Enter}{F4}
{Date} {Enter}{F3}{Ctrl+End}
{Enter}{Time} SOCIAL STUDIES:

Fn+F3: MATH
{More}{Menu}al{NoteTaker}{Menu}
foa:\homework.ndb{Enter}{F4}{Date}
{Enter}{F3}{Ctrl+End}{Enter}{Enter}
{Time} MATH:

Fn+F4: NEWS
{More}{Menu}al{NoteTaker}{Menu}
foa:\homework.ndb{Enter}{F4}{Date}
{Enter}{F3}{Ctrl+End}{Enter}{Time} NEWS:

Fn+F5: SCIENCE
{More}{Menu}al{NoteTaker}{Menu}
```

```
foa:\homework.ndb{Enter}{F4}{Date}
{Enter}{F3}{Ctrl+End}{Enter}{Time} SCIENCE:

Fn+F6: ENGLISH
{More}{Menu}al{NoteTaker}{Menu}
foa:\homework.ndb{Enter}{F4}{Date}
{Enter}{F3}{Ctrl+End}{Enter}{Time} ENGLISH:

Fn+F7: HOMEWK
{More}{Menu}al{Appt}{F9}{F10}{F4}
Homework{Enter}{F3}{NoteTaker}{F4}
{Date}{Enter}{Enter}{F5}{Enter}
{Appt}{Paste}{F10}

Fn+F9: Quiet Alarm
{More}{Menu}al{Appt}{Menu}ob{Alt+I}{F10}

Fn+F10:Loud Alarm
{More}{Menu}al{Appt}{Menu}ob{Alt+C}{F10}
```

ment goes off a minute later. This appointment runs a macro that opens a special NoteTaker file where Heather keeps her assignments. *[For example, to set an appointment to run the Fn+F1 macro, press [F2] to add an appointment; key | |1 into the description field; set the Start Time; make sure the Alarm is Enabled and your Leadtime is set properly; and press [F10]. (The | symbol in | |1 is the shifted value of the \ key, found next to [ESC] in the upper left of the keyboard.) For more information on this topic, see "Appointments, running programs" in the index of your HP 100/200LX User's Guide.]*

Please see the sidebar on the previous page for a detailed description of the first macro and a complete list of all the macros we use.

Before the first class period each day, the Appointment Book ran the "Quiet Alarm" macro, which sets the appointment alarm sound to Chime. My objective was
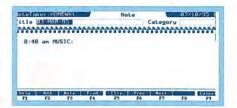
NoteTaker Homework file open to item for today's assignments. Cursor positioned next to current class awaiting assignments.

to minimize disruption of the class, and the Chime alarm is less obtrusive. The Loud Alarm macro sets the alarm back to Custom, which plays an alarm Heather created for her Palmtop.

By the end of the day, Heather would have a single Notepad record with all her assignments on it. The final phase was running a macro that moved the contents of the NoteTaker Notes field to an Appointment Book ToDo item labelled HOMEWORK. We decided to do create a separate ToDo list so that Heather could check off assignments as she accomplished them and see what she had left to do.

Creating a custom alarm for your Appointment Book

By Heather Tinling

[Heather is a good student and an excellent flutist and artist. She attends Oliver Wendall Holmes Junior High School in Davis, California. Her interests are art, music, soccer, camping and backpacking.]

Hi my name is Heather. I am 13 years old and live in Davis, California. I enjoy many things and one of them is computers. Which brings me to my story. I have A.D.D.(Attention Deficit Disorder) and have trouble remembering to write down my homework assignments. So my mom gave me her HP 100LX when she got her new HP 200LX. Mom set the alarm to ring at the end of each class to remind me to input my assignments in the HP's NoteTaker application.

Well, the standard beeping in class caused some embarrassment 'cause everyone would groan or yell at me to shut it off. I had seen Mom program her LX to play "The Impossible Dream" as her alarm, so I asked her to help me get started. I followed the instructions in the User's Manual and Mom's advice. I had to play around with the octaves a bit because the instructions were not very clear on that subject. The rest is, as they say, history.

Below is the alarm code I wrote for the tune "It's A Small World." Open up the Memo application and key in the code exactly as it is shown below (SMWORLD.SWD 🖬).

[Notes: The alarm function doesn't care whether the letters are in upper or lower case, but the letter "L" is shown below in upper case to distinguish it from the number "1." Also, spaces are optional. Finally, the code is displayed below on four lines to fit the format of the Palmtop Paper. However, the characters should be entered on one long line in Memo. Let Memo wrap the lines automatically. Do not use carriage returns.]

```
k1to4L32e L32f L16g o5L16e L16c L32d L32c L16c o4L16b L16b L32d L32e L16f
 o5L16d o4L16b o5L32c o4L32b L16a L16g L16g L32e L32f L16g o5L32c L32d
L16e L32d L32c o4L16a o5L32d L32e L16f L32e L32d o4L16g o5L16f L16e L16d L12c
```

After you have finished entering the desired tune, save the file as C:_DAT\ ALARM.SND (file also available as SMWORLD.SND = . Copy to C:_ DAT and change name to ALARM .SND).

Then open Appointment Book, press (MENU) Options Alarm Beep... and select Custom. You can press Test to hear your new alarm. If you like it press (F10) and the new sound will be used for your Appointment Book alarms.

Day's assignments transferred to Note field of an Appointment Book ToDo

The Fn+F7 macro described in the sidebar on this page opens to ToDo Notes field, goes to Note-Taker, uses a smart clip to copy the day's assignments to the Palmtop clipboard, goes back to the ToDo Notes field and copies them there. Heather looks at the ToDo list at the end of the day for the day's assignments, and assembles books, and other material she needs to bring home.

Refinements needed

About a third of the way through the school year, Heather succumbed to a common problem amoung Palmtop users — She started ignoring the appointment alarm. We quickly switched to a custom alarm I downloaded from the HP HANDHELD forum on CompuServe to give her a fresh new sound.

This met her needs admirably until the early spring, when her use of the 100LX began to diminish. Occasionally, she'd leave her HP at home. After discussing things with her at great length (Mom's a bit dense about these things) I discovered she simply wanted to put her own imprint on the process. Two changes were made as a result of our conversation.

First, Heather programmed her own custom alarm, the tune to "It's a Small World." She was beaming after she'd written and debugged it. It was the first computer program she'd ever written.

The second change was a little more complex. Heather not only wanted to be able to see all the assignments of a given day, she also wanted to view assignments on a class-by-class basis. In other words, she wanted to be able to just look at the semester's music assignments, or math assignments, etc. The way we had things set up, this was not possible.

I set up a new NoteTaker file. Each record had the date in the Title field, as in the first file. However, this time I put the name of the class (English, Math, etc.) in the Category field. The Note field contained the assignment. Initially, I created a "dummy" record for each class, using April 1 as the date in the Title field. Then I set up a Subset named LIST, which displays entries with the date April 1 in the Title field. The LIST Subset displayed a simple list of the classes, with no assignments. (To create a Subset from the NoteTaker main screen, press ⬚F6⬚ ⬚F2⬚. For more on creating Subsets, see "Subset" in the index of your HP 100/200LX User's Guide.)

I then created a series of Subsets, one for each of the classes. Each class Subset was defined to display NoteTaker entries for that class only. For example, the ENGLISH subset was defined to display only those entries with "English" in the Category field.
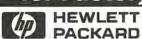

Refined NoteTaker Homework file displaying sequence of English assignments

The All Records and class Subsets were sorted first by the Category field (i.e. the class name) and then by the Title field (i.e., the date). This ensured that all the entries associated with a specific class were displayed together, the uppermost record being the most recent one.

The 1-2-3 Column:
Find Help Fast
for Lotus 1-2-3

LOTUS

Lotus 1-2-3 has thrived because it is powerful and flexible. This first in a continuing column describes sources of support available to 1-2-3 users.

By Carl Merkle

I have used 1-2-3 on nearly a daily basis for over 10 years. In the early 1980's 1-2-3 was the most sophisticated spreadsheet package available. Lotus 1-2-3 and word processors were the "killer applications" responsible in a large way for the success of the personal computer. For common day-to-day use, these two applications were able to handle 99% of most peoples' computing needs. I've used a number of different word processors over the years, but Lotus 1-2-3 has been a solid constant in my computing life.

The value of 1-2-3 increased when it migrated to the HP Palmtop. Running under System Manager, 1-2-3 gained Windows-like capabilities. You can use the built-in clipboard capabilities to copy and paste between 1-2-3 and other applications. And you can access Lotus fast with the Palmtop's instant on feature.

There are now more sophisticated spreadsheet programs with more bells and whistles, and nicer displays. However, the version 2.x series of 1-2-3 (including version 2.4 on the HP 100/200LX and version 2.3 on the 95LX)) has all the capabilities you're likely to need.

Both these versions of Lotus save their spreadsheets in the .WK1 format. Since most other spreadsheet programs let you save and retrieve worksheets in the .WK1 format, data exchange between the Palmtop and other spreadsheet programs is easy.

Lotus thrived because it was powerful and flexible

Lotus 1-2-3 thrived because it could help solve an incredible variety of business and analytical problems. Many people, including me, found uses for the product that were never intended. I describe some of my uses below, but it would be interesting to hear of your uses also. Hopefully, some of your ideas can be incorporated into future articles.

Here are some of the ways I use Lotus 1-2-3 on the HP Palmtop:

1. As a formatter for MEMO.
A long time ago I stopped using the ToDo section of APPT because it was too slow. I now use a Memo "Journal" to track my month's activities. I have a template set up in 1-2-3 that I use to format a Memo file for the next seven days of activity. Every Sunday I open the template in Lotus and use the Palmtop's cut-and-paste to copy the template to a Memo file I use to track todo's, messages received, actions taken, accomplishments, etc. The resulting Memo file becomes a monthly diary which can be searched and reviewed quite easily. I save each month's ToDo journal separately, naming by year and month (e.g., 94_DEC, 95_JAN, etc.). The example at the top of the next page shows how the first day of the template appears when copied over from 1-2-3 to the built-in Memo program.

I still use Appointment Book, but mostly for appointments I want to be reminded of by the alarm, and for matters I want to see in the monthly view.

ABOUT THE AUTHOR:

Carl Merkle is a senior manager with E&Y Kenneth Leventhal Real Estate Group, a business unit of Ernst & Young, LLP. He specializes in accounting, auditing and consulting regarding real estate and financial institutions. He lives in Irvine, California with his wife and three children. The HP Palmtop is a regular part of their daily activity.

****

07/02/95 - SUNDAY

* MESSAGES, CALLS
* TODO TODAY
* ACCOMPLISHED
* PD ACTIVITIES
* DIET/HEALTH/WORKOUT LOG
* NOTES (ie News, Topic)

2. As a data gathering device.
I used to keep a paper log of gas and repairs to my car. I now keep a log in a spreadsheet that I update while at the gas pump. It automatically multiplies price per gallon by gallons purchased to tell me if the pump's total price is correct. It also calculates the miles per gallon my car is getting per tank and gives me an average for the year. Another section of the same spreadsheet tracks oil changes, and repairs. My Palmtop is always with me, making this kind of real-time data gathering possible.

3. As a financial analysis tool.
I have a simple stock portfolio/ trading spreadsheet that I use to track closed and open positions. The Palmtop helps me achieve excellent returns because it gives me the ability to calculate annualized returns and do what-if scenarios easily. In addition, worksheets can be created for loan amortizations, present value calculations, budgets, real estate pro formas,' and so on. My list goes on and on.

4. As a sophisticated calculator.
Occasionally I have needed to do backsolving with some complex calculations. HP CALC combined with 1-2-3 has made this a snap.

5. As a simple calculator.
I can set up a spreadsheet to add up a column of numbers, and do sorts and subtotals on data I may want to check for input errors.

6. As a text outliner,
or text reading device.

On some occasions I have used 1-2-3 to open and look at data files, reading a line or a number of characters at a time. (Open an empty spreadsheet, press [MENU] File Import Text, highlight the desired file and press [ENTER].) I'll also open a 1-2-3 file and start outlining thoughts. It's easy to sort and move entries in Lotus, and simple to copy and paste them to another application later. Since I always have Memo open with my diary loaded, I also use 1-2-3 to take meeting notes.

8. As a programming language.

1-2-3's macro command language can be seen as a limited, but reasonably sophisticated, programming language. Lotus macros let you create spreadsheets that will prompt you for input, carry out repetitive tasks, display results in numeric or graphical format and more. For a common user, the 1-2-3 macro command language is probably simpler to learn and easier to find mistakes than in true programming languages.

9. As a database reader,
manipulator and "scrubber."

In my work with financial institutions I have often downloaded loan databases, or we have created databases that later needed certain fields to be cleaned up ("scrubbed") for consistency (e.g., records in a database City field may read L.A., LosAngeles, Los Angeles, etc., and we need them all to be "Los Angeles" for consistency). A 1-2-3 add-in product by the name of @base (which reads and writes dBase III files) has been extraordinarily useful for this and for doing cross tabulations on large databases that otherwise exceed 1-2-3 memory limits. This will be an advanced topic covered by a future article.

10. As a form or label generator.

1-2-3 can be used as a database to generate simple form letters or labels. This activity is really quite easy to do, however it is not initially very intuitive. A future article will explain how to do this.

The birth of this column reflects the need for 1-2-3 support

The above are just a few examples of how someone familiar with the basics of the program and supported by adequate documentation can accomplish a lot with 1-2-3. Unfortunately, documentation and support for 1-2-3 on the HP 100/200LX Palmtop, though available, is not easy to find. Many of the new users buying the HP Palmtop do not know 1-2-3. In addition, many work in companies

that have Excel or some other spreadsheet as a corporate standard. The need for 1-2-3 support is real.

Unfortunately, it also turns out that books about the older DOS-based versions of 1-2-3 are disappearing from the shelves of bookstores, in favor of newer books on Windows versions. Without the proper information about 1-2-3, many Palmtop users don't understand and cannot utilize the power built into the Palmtop in the form of 1-2-3.

This need for support gave rise to the column you are now reading. This column, a regular feature in future issues, will focus on using 1-2-3 and integrating its capabilities with the other built-in applications.

Some of you are beginners and some are more sophisticated users. Hopefully, we can provide something for everyone. Feel free to let us know what you would like to see covered in this column. Lotus 1-2-3 is deceivingly simple to use for things like simple data entry, lists, and simple calculations. In addition, it has some sophisticated features that take a little longer to learn. However, once the finer points of Lotus are understood, the program's ability to make your business and personal life easier and more effective grows by leaps and bounds.

Where to get help

The first topic we need to cover in ' this column is where to get support for Lotus 1-2-3. Fortunately, support is available from a number of different sources. These include books; materials and assistance available via CompuServe, Internet, and other on-line bulletin boards or other electronic services; Lotus Technical Support by telephone; newsletters and magazines; users groups; and training centers and training videos.

One of the most important is the

F1 Help key on your Palmtop.

1. Press F1 for help!
One of the elements that made 1-2-3 so popular through the 1980s was its excellent "context sensitive" help built into the program. This means that when you are doing something in 1-2-3 and press (F1), 1-2-3 displays a help screen with information related to what you are doing.

For instance, let's say you want to write an @if formula in 1-2-3 and you do not remember the syntax for the formula. Type @if into a cell and then press (F1) to get thescreen displayed at the top of the next column, showing the syntax of the command.

Context sensitive help is also available for 1-2-3 macro commands. For most experienced users, the syntax displayed on the HP Palmtop is sufficient to allow them to complete a formula or

```
@IF (condition,x,y) evaluates condition.
Returns x if condition is true; y if false.
```

1-2-3 context sensitive help screen displays syntax of Lotus @if function.

macro command.

Although 1-2-3 on the HP Palmtop also contains context sensitive help, the amount of information available on the Palmtop is substantially reduced from the original version due to Palmtop memory constraints. For less experienced 1-2-3 users, the syntax may not be understandable without more explanation, and may need to be supplemented by more material. Even so, the F1 key should be the first place most 1-2-3 users go for information. It is very convenient, and is as portable as your HP Palmtop. (Note: If you have Lotus

Lotus 1-2-3 Support Publications

Listed below is contact information for some of the support publications available for Lotus 1-2-3 on the HP Palmtop.

Using 1-2-3 , release 2.4 Special Edition — $29.95

Good reference book for 1-2-3. Be sure to ask for release 2.4, which is out of print, but still in stock. Que has a free catalog available describing Que's complete line of books, including other 1-2-3 titles.

Contact: *Que Development Group, 11711 N. College, Carmel, IN 46032, Phone: 800-428-5331 or 317-573-2500 fax: 317-573-2583*

1-2-3 for Dummies — $16.95
1-2-3 for Dummies Quick Reference — $8.95

Entertaining writing style and good technical coverage of 1-2-3.

Contact: *IDG Books Worldwide, 7260 Shadeland Station, Suite 100, Indianapolis, IN 46256; Phone: 800-762-2974 or 415-312-0650.*

An Easy Course in Using Lotus 1-2-3 — $9.95
Lotus in Minutes — $9

Contact: *Grapevine Publications, Inc., P.O. Box 2449, Corvallis, Oregon 97339; Phone: 800-338-4331 or 503-754-0583; Fax: 503-754-6508.*

Understanding 1-2-3 , release 2.3 & 2.4 for DOS — $29.95
Lotus 1-2-3, release 2.3 & 2.4 for DOS Quick & Easy —$19.95
The Basics of 1-2-3 Release 2.4 for DOS — $19.95

Contact: *Sybex Inc., 2021 Challenger Drive, Alameda, CA 94501; Phone: 800-227-2346 or 510-523-8233; Fax: 510-523-2373.*

1-2-3 release 2.4: The Complete Reference — $29.95

Large collection of spreadsheet templates.

Contact: *Osborne McGraw-Hill; 2600 Tenth Street; Berkeley, CA 94710; Phone: 800-227-0900 or 510-549-6600.*

1-2-3 User's Journal -- $59 /yr

Monthly publication offering tips and techniques for getting the most from 1-2-3.

Contact: *The Cobb Group, 9420 Bunsen Parkway, Suite 300; Louisville, KY 40220; Phone: 800-223-8720 or 502-493-3300; Fax: 502-491-8050.*

Misc. Lotus Books and Products

Carries a variety of enhancement products for current versions of 1-2-3, including training videos, books and software.

Contact: *Lotus Selects, Catalog Center A, 440 Lincoln Street, Box 100, Worcester, MA 01653-0100; Phone: 800-635-6887; Fax: 617-693-3899..*

PC World Lotus Edition — $7 single copy price

Ceasing Lotus special edition after August 1995 issue. Back issues available while in stock.

Contact: *PC World, Subscription Department, P.O. Box 51833, Boulder, Colorado, 80321-1833; Phone: 800-825-7595; Fax: 415-882-0936.*

MICROREF Quick Reference Guide, Lotus 1-2-3, Version 2.4 — $14.95

See sidebar on the next page for description.

Contact: Thaddeus Computing (see next sidebar).

1-2-3 or other spreadsheet programs on your desktop PC, their more extensive built-in help may be valuable.)

Another important resource available to many users may sit at the desk next to you at work.

2. Find an expert

Since spreadsheets are used within most organizations, there may be resources available where you work. Find someone who is comfortable with the subject, and piggyback off of their knowledge. Use that to become familiar with the spreadsheet environment and spreadsheet metaphor. Most good spreadsheet users will be familiar with one of the big three (1-2-3, Excel or QuatroPro). These spreadsheet programs have many similarities, and the experienced user may be able to provide you with the answer you need, even if they do not use 1-2-3 on the HP Palmtop.

If they can't help you, they may be able to send you to someone who can, or suggest a good book on Lotus 1-2-3.

3. Get a good Lotus 1-2-3 book

Search your local bookstores, computer stores, used book stores or garage sales for a reference or tutorial on 1-2-3. Just about any book on 1-2-3 releases 2.x, or even 3.x will do, so long as it has a complete description of the syntax for 1-2-3's @formulas, macro command key words, and a description of the command menu. If you do pick up a manual on a higher release, there may be a few elements that are not applicable, but many features are the same.

The following books are often mentioned as favorites. Contact information for these and additional 1-2-3 books are described in the sidebar on this page.

Using 1-2-3 (by Que)
Que has a reputation for publish-

Inexpensive easy-to-use 1-2-3 and DOS reference guides

By Hal Goldstein

Over the past year we have received lots of mail from HP Palmtop users complaining about the lack of 1-2-3 and DOS reference material in the HP 100/200LX manuals. Recently we had the opportunity to purchase a large number of Lotus 1-2-3 2.4 and DOS 5.0 MICROREF Quick Reference Guides. I found these guides complete and exceptionally easy to use and suitable for the entire range of users from novice to pro. They are obviously well thought out and designed by educational professionals.

These guides feature

- Comprehensive coverage of commands
- Step-by-step outlines of procedures
- Numerous examples and illustrations
- Spiral bound pages lie flat, turn easily
- Graphic tabs for fast access to sections
- Convenient pocket size that can travel with you
- Cross referenced index locates subjects fast
- Glossary of terms with command summary

John Dvorak of PC Magazine stated: "Far superior to any other guide, cheat sheet or original documentation ... an excellent guide for all users ... highly recommended."

I gave the guides to our circulation director, Sharon Dilmore, to see what she thought.

She said: "Three years ago when I joined the staff at Thaddeus Computing, Inc., I was the ultimate DOS dummy. Lotus? Forget it! Sure, there were the manuals, classes, the Quick Start guides, but who has time? There's work to be done.

"Yesterday I found my salvation. The big guy, Hal Goldstein, came to me and said, `Sharon, would you review these Microref quick reference guides for PC/MS-DOS and Lotus 1-2-3 and see what you think?' What do I think? Wow, even I can follow this. Ever try to look something up in the index of a manual? Not to worry! The graphics tabs in Microref provide such easy access to information that it almost makes the index unnecessary and the step-by-step guides within make all things possible for this DOS dummy.

"Sorry Hal, you can't have them back. Possession is nine-tenths of the law. Thanks."

Ordering information:

MICROREF Quick Reference Guide, Lotus 1-2-3, Version 2.4 ... $14.95

MICROREF Quick Reference Guide, DOS, Version 5.0 ... $14.95

Both the DOS and 1-2-3 guides ordered at the same time ... $25

Shipping (for one or both guides) $4 U.S., $9 outside U.S.

Call:	**800-809-5603 or 515-472-1875**
Fax:	**515-472-1879**
EMAIL:	**76125.1773@compuserve.com**
Mail:	**Thaddeus Computing, 57 E. Broadway, Fairfield, IA 52556**

Payment Method:

Visa, Mastercard, American Express or a check for U.S. dollars drawn on a U.S. bank accepted. Merchandise shipped on receipt of payment!

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ing high quality books and has many titles covering the topic of 1-2-3 in varying depths of coverage. I have had excellent success with their products over the years, and strongly recommend this book as a must have reference book for the serious 1-2-3 user. At the time of writing this article, they still had about 3,000 copies of Using 1-2-3 Release 2.4 still available for sale, but out of print.

1-2-3 for Dummies
The new series of "Dummies" books have been best sellers because of their entertaining writing style and good technical coverage.

An Easy Course in Using Lotus 1-2-3
This is a friendly tutorial on 1-2-3 by the publisher of excellent tutorials on other HP calculator products. The book uses a learn-by-doing approach to take a user from novice to advanced proficiency.

4. Get assistance from an on-line bulletin board service
On-line BBS services provide excellent support from fellow users and Lotus experts.

CompuServe users can type GO LOTUSA to go to the Lotus Forum. There is a section for users of the 2.x versions, and there are libraries with a variety of templates available. CompuServe's HP HAND forum supports HP Palmtops and also has some 1-2-3 templates available in its libraries.

There are a variety of other vendors of publications that cater to 1-2-3 users which have a presence on CompuServe. Among these are PC World, which publishes a Lotus Edition of its magazine (type GO PWOFORUM), and ZiffNet which makes macros and templates from their publications, like the 1-2-3 User's Journal, available.

Internet provides 1-2-3 information at **http://ww.Lotus.com**.

5. Lotus technical support by telephone
Lotus provides free technical support to new 1-2-3 users, but some complain about the length of time it takes them to answer a call. Lotus also offers paid support lines that are described as being more responsive. *[Editor's Note: Our understanding is that HP Mobile Computing Support is responsible for*

Lotus 1-2-3 support for the HP Palmtops. Their number in the U.S. is 505-757-2004.]

You might try one of the following numbers:

❑ Lotus Prompt,
Call: **800-223-1662**
Cost, free with product purchase first 90 days, $129 per year thereafter.

❑ 900 number Support
Call: **900-454-9009**
Cost: First minute free, $2 for each additional minute.

❑ Lotus Customer Service
Call: **800-343-5414**
Call this number to hear a list of technical support options or to order products.

6. Magazines and newsletters

PC World publishes the *PC World Lotus Edition*, which provides useful information on what is happening with Lotus products. Unfortunately, the Lotus Edition ends with this August's edition. Back issues are available while in stock.

The Cobb Group publishes the *1-2-3 User's Journal*, which has a number of in-depth Tips and Techniques for getting the most out of 1-2-3. They note in the article which versions of Lotus the article is applicable to. From my perusal of fairly recent editions, the bulk of the material was applicable to all versions of 1-2-3, including 1-2-3 Release 2.x. It is a good journal for an intermediate to advanced user, hungry for knowledge.

7. Users groups

A variety of users groups meet periodically (typically once a month). They hold workshops, conduct tutorials and host product demonstrations from company representatives. The larger of these organizations also have special interest groups (SIGs) that focus on a particular product or type of product. Attending user groups is a good way to meet local spreadsheet experts who can assist you with your particular needs.

Call Lotus's user group manager at **617-693-1606** to find out if there is a group near you.

8. Training centers and training videos

Lotus authorizes companies across the United States to conduct 1-2-3 training sessions. These companies must meet certain minimum requirements in order to become an authorized Lotus training center. For information about authorized training centers call Lotus at **617-693-1454**. Or, call the Computer Professionals Network at **212-288-2800**. This is a national referral, information and marketing service that matches independent trainers, programmers, and consultants with client organizations.

There are a number of training videos available. Call Lotus Selects at **800-635-6887** for more information on training videos.

9. Built-in help on desktop versions of Lotus 1-2-3

As mentioned earlier, desktop versions of 1-2-3 offer more extensive built-in help and contain tutorials which are very useful for getting an overview of the capabilities of a spreadsheet program. In fact, the most recent release of 1-2-3 comes on CD ROM and has no manual. However, its built-in help is more extensive than most manuals.

Since many of the formulas and macros have the same syntax, help available on desktop versions of 1-2-3 can be very beneficial.

Product Index: page 47

You would be amazed at the price difference in similar items when you reduce them to unit or ounce cost. Quite revealing.

I am now attempting to develop a model stock plan or an automatic replenishment plan for my 100LX. I have inventories on all those items such as sugar, flour, salt, pepper, etc., in Lotus. I am working out what our minimum inventory of these items should be for normal weekly use. The idea is to take inventory on occasion and enter the amount. Lotus will then indicate to me "when to add" or how dangerously close we are to replenishment time.

I admit this visionary objective is fraught with problems and I am far from having a model stock system that is fully operational. I keep trying to work out the bugs. Needless to say my wife thinks I am crazy. She can hardly wait to get back to operating her kitchen "the old fashioned way."

Ervin Jackson, Jr.
Charlotte, NC

[There is a dedicated shareware shopping list program named SHASS 🖻- Hal.]

1-2-3 Documentation for 200LX Lacking

The Palmtop is a first class helper. But I can't figure out why HP doesn't provide adequate documentation for the built-in Lotus 1-2-3 application. The program is so old that you can't find decent documentation for it. If you'd been with me the past few evenings as I shopped around for 1-2-3 (Ver.2.4) reading material, you'd be inclined to think the same way. HP must feel

most users already know 1-2-3, so they don't need to bother including any documentation. How does that help 9-out-of-10 of us who know exactly zero about it?

If they want to claim an aged version of 1-2-3 as one of the 200LX's major selling points, the least they can do is supply some documentation to help cushion the fall a little. The more I think about it, the more the whole thing irks me. And no, when I bought the 200LX I had no interest whatsoever in 1-2-3. I had no use for it — but I do now.

Art Mercier
CompuServe ID: [72277,3255]

[The lack of 1-2-3 documentation with the HP Palmtop has annoyed other Palmtop users. Fortunately, there are still some good 1-2-3 release 2.x references available. For a list of some of them, see the sidebar on page xx of this issue.

In addition, Thaddeus Computing has just acquired a large number of Lotus 1-2-3 release 2.4 MICROREF Quick Reference Guides (and DOS 5.0 Quick Reference Guides). We are selling them for $14.95 each ($25 for both 1-2-3 and DOS Guides). For ordering information, see the sidebar on page xx of this issue — Rich.]

Choosing the Right 3.5" Disk Drive

I use a fairly extensive Commodore system and recently decided to purchase an HP 200LX for its portability. The problem is that I don't own any other DOS machine. I received your Subscriber's Power Disk, and have no machine to use all of the marvelous files on.

Reading The Palmtop Paper and EduCalc's catalog I find that there are a couple

of interesting options available to me:

• Drive 100/200 — Portable 3.5" Disk Drive by Sparcom — $323.

• Travel Floppy 144 — Floppy Storage Subsystem with PCMCIA PassportCard by Accurite — $249.

Having read your review of the Accurite drive in the 1994 PC Card Review (Page 36, "Travel Floppy with PCMCIA Interface"), I would like to know the pros and cons of these two products, and possibly your recommendation. I don't want to purchase a DOS system, as I am fully satisfied with my Commodore system. Your advice would be most appreciated. I love my 200LX and am looking forward to the addition of a 3.5" drive.

Chauncey Westbrook
Philadelphia, PA

[Both drives have their strong points. It depends on your particular needs. The Accurite drive is faster and more reliable than the Sparcom drive, but the drive uses the Palmtop's PCMCIA slot. So you can't copy files directly from your 3.5" disk to your PCMCIA card.

You have to copy the files to your Palmtop's C drive, then remove the Accurite drive's interface from the Palmtop's card slot, put your PCMCIA card into the slot, and then copy the files from the Palmtop's C drive to your card.

The Sparcom drive uses the serial port, so you can copy files from a 3.5" disk to your PCMCIA card directly — Paul.]

Disable Write Protection on HP FlashDisk

I use a 5MB HP FlashDisk with Stacker on my HP

200LX. Recently it developed the problem that I can't save or delete files on the Flashcard. If I try to, I get the error message, "Disk is Write Protected." What do I need to do to release the write protection?

A & G Consultant Co.
Yokohama, JAPAN

[HP Tech Support said they had heard of the problem you described, but that it was very rare. To disable the write protection, run CHECK.EXE (not CHKDSK) from the DOS prompt on your Palmtop. CHECK.EXE is a utility program that comes with HP FlashDisks. It should still be on the compressed portion of your flashcard. If you can't find it there, check the floppy disk that came with the FlashDisk. To do this, close your applications, enter AppManager (press [&...]) and exit System Manager completely by pressing [MENU] Application Terminate All.

If CHECK.EXE is still on your flashcard, log on to the A drive and the directory it is in, type check at the DOS prompt and press [ENTER]. If it is not on the Flashcard, copy it from the floppy disk that came with your FlashDisks, to your Palmtop's C drive and type check a: from the C:\ prompt. That should fix the problem.

If you have any further problems, contact HP Tech Support — Rich.]

Use Lotus and World Time to Figure Distances Between Cities

Several editions of Quick Tips have explained how to calculate the distance between two points on earth using the latitude and longitude of the points (one example is found on pg.57, Vol.3, No.6, 94). These

examples make use of the HP Calc Solver function. While useful, this method, which necessitates transcribing the longitudinal and latitudinal values and then keying them in for each location, can be used for any programmable calculator. It ignores the real power of the Palmtop for this application — using Lotus 1-2-3 and and the Smart Clip functions.

For example, set up the following Lotus spreadsheet "MILEAGE.WK1." To do this, open Lotus 1-2-3. In each of the following cells enter:

Cell A1, type: Distance=
Cell A2, leave blank.
Cell A3, type: City A
Cell A4, type: Lat A
Cell A5, type: Long A
Cell A6, type: City B
Cell A7, type: Lat B
Cell A8, type: Long B

Cell B1, enter the formula:
3956.0788*@acos(@sin(c4)*@sin(c7)+@cos(c4)*@cos(c7)*@cos(c8-c5))

Cell C1, type: Miles
Cell C2, leave blank.
Cell C3, leave blank.
Cell C4, enter:
+$b4*2*@PI/360
Cell C5, enter:
+$b5*2*@PI/360
Cell C6, leave blank.
Cell C7, enter:
+$b7*2*@PI/360
Cell C8, enter:
+$b8*2*@PI/360

In the above worksheet, Lat = Latitude, and Long = Longitude. Cell B1 contains the main formula. This formula calculates the distance between two points using an adaptation of a standard for-

mula. The actual longitudes and latitudes in degrees from the HP World-Time list go in cells B4 and B5 for city A, and cells B7 and B8 for city B respectively. Since Lotus calculates trigonometric functions using radians, the translation of degrees into radians is made in cells C4,C5,C7,C8.

NOTE: Don't forget the second parenthesis at the end of the main formula in cell B1.

At the World-Time List, create a customized Smart Clip by pressing: [F5] (Clip) [F2] (Define) [F2] (Field). Select "City" in the Field Name box, and press [ENTER] (OK) [ENTER] (Hard return). Do the same for Latitude and Longitude: press [F2] (Field), select "Latitude", press [ENTER] (OK) [ENTER] (Hard

return). Press [F2] (Field), select "Longitude", press [ENTER] (OK) [ENTER] (Hard return). Press [F10] (OK) and name the Smart Clip — type "Location." Press [F10] (OK). Press [F10] (OK) again to return to the All Cities list.

Now that this custom Smart Clip is defined, choose a city in World Time, press [F5] (Clip), select "Location" and press [ENTER] (OK). The city name, latitude and longitude are copied to the clipboard.

Now open the Lotus MILEAGE.WK1 spreadsheet and put the cursor on cell B3. Press [Fn] [+] (Paste). The contents of the clipboard are copied to the appropriate cells. Repeat the sequence for the second city, starting in cell B6.

The only nuisance with this process is that the clipboard transfers the latitude and longitude values as text, not numerical data. To rectify this, go into each of the longitude and latitude cells, press [F2] (to edit) [Fn] [HOME] (to get to the beginning of the entry) [DEL] (to eliminate the apostrophe (') and allow Lotus to recognize the data as numerical). You could devise a macro to accomplish this, but I didn't include one in this example.) The correct distance in miles will appear in cell B1 after you move the cursor out of the last cell you have corrected.

• • • BASIC TIPS • • •

1-2-3

`95LX` `100/200LX`

Backup Lotus files every 15 minutes to provide security

I never do more than 15 minutes of data entry in Lotus or a word processor without saving the file. I sometimes keep sequentially numbered intermediate backup files to keep track of the changes I've made to a file. For example, I might have the following backup files for a Lotus spreadsheet I'm working on: FILE1.WK1, FILE2.WK1, FILE3.WK1, and FILE4.WK1 (the last being the most current).

Then when I know the final file is perfect, I save it, back it up, and get rid of the intermediate files.

Stanley Dobrowski
CompuServe ID:[71031,2162]

ApptBook

`95LX` `100/200LX`

Changing length of appointment time slots

Open APPT and the first thing you see is the daily appointment list. APPT came configured from the factory to display hourly appointment slots. However, you can change this to display appointment slots every 30 minutes, 15 minutes, or just display actual appointments.

On the HP 100/200LX

From the main Appointment Book display press `Fn` `<Spacebar>` to toggle between APPT's 15 min, 30 min, 60 min, and Appointments only displays. You can also change the Appointments screen display by pressing `MENU` **O**ptions **T**imeline and selecting the desired option (see screen top next column).

On the HP 95LX

From the main APPT display press `MENU` **S**ettings **T**imeline and select the desired display.

Appointments displayed every 15 months, view from the HP 100LX

`100/200LX`

Quickly changing APPT start/end time

From APPT on the HP 100/200LX, you press `F2` to add a new appointment. You enter a description of the appointment and then press `ENTER` or `<Tab>` to move to the Start Time field. You can quickly change the start and end times in 15-minute increments by pressing `+` (plus 15 minutes) or `-` (minus 15 minutes).

Connectivity

`95LX` `100/200LX`

Don't put Connectivity Cable in upside down

It is difficult, but not impossible, to plug the HP Connectivity Cable into the HP Palmtop upside down. A little brute strength is necessary to accomplish this feat, and some users are willing to apply it. Both the original 95LX cable and the 100/200LX cable have an HP logo on the top side of the connector. When you slip the connector into the serial port of a right-side-up Palmtop, if you can see the HP Logo on the Connectivity Cable connector, you're OK. If you can't, don't push!

Filer

`95LX` `100/200LX`

Filer filters help you find files

Let's say you want to review the MEMO files you have on your Palmtop and for the moment only want FILER to display files with a .DOC file extension.

On the HP 100/200LX

Open Filer and press `F4` (Filter), key in

*.DOC and press `ENTER`. Only files with a .DOC extension will be displayed. Press `F4` `F8` to reset the view to display all files. You can also press `MENU` **O**ptions **S**ort, select Extension and press `F10`. Filer will organize files alphabetically by file extension, displaying, for example, .BAT files first, .COM files next, and .DOC files after that.

On the HP 95LX

The 95LX is a little more limited in the way it can sort and display files. You press `MENU` **F**ile-Sort **E**xtension in Filer to display files organized alphabetically by file extension (.BAT first, .COM next, etc.). If you want to get a listing of a particular type of file only, first make sure all other applications are closed down. Then press `MENU` **S**ystem to exit to the DOS prompt and use the DOS Directory command to list the files. For example, to list all Memo .TXT files type **dir *.txt** at the DOS prompt and press `ENTER`.

HP Calc

`100/200LX`

Number of days till Xmas? Use the Date Arithmetic function

The HP 100/200LX version of HP Calc comes with a Date Arithmetic application that lets you calculate the number of days between two dates. For example, let's say it's October 17 and we want to know how many days till Christmas (Dec 25). From HP CALC press `MENU` **A**pplications **D**ate Calcs and follow these steps (this example assumes the date format is month/day/year):

Step 1: Key in the first date

Enter it in the following format: MM.DDYYYY. For our example, enter July 4, 1995 as **07.041995**. Press `F3` to store the date in the DATE1 field.

Step 2: Key in the second date.

For our example, Dec. 25, 1995 is entered as **12.251995**. Press `F4` to store the date in the DATE2 field.

Step 3: Calculate number of days.

Press `F5` to calculate the number of days between the DATE1 and DATE2. The answer, **DDAYS = 174**, is displayed

on the Calc Line at the bottom right of the display and next to "Actual days between dates," the third line down from the top of the screen.

We can also use this application to calculate the number of days till our vacation, determine the day of the week for any date, and determine a future or prior date (i.e. 35 days before or after a specific date). For more on this function, look up "Date Calculations" in the index of your *HP 100/200LX User's Guide.*

`Misc.`

`95LX` `100/200LX`

Stuck, trapped, no where to go? Press `ESC`
The ESC key in the upper left of the keyboard gets you out of menus, dialog boxes, and most everything else. If you're somewhere you don't want to be and want to get out of it, try pressing `ESC`.

One thing the ESC key won't do is get you out of an application. Press `MENU` Quit to leave an application completely.

`95LX` `100/200LX`

Hot Keys for built-in apps
Al the major built-in applications on the HP Palmtops are activated by pressing a corresponding blue hot key. The HP 100/200LX comes with additional built-in applications that don't have their own blue key, but can be started by pressing a hot key combination (two keys at the same time). Below is a listing of the application and hotkey combination:

On the HP 100/200LX

```
CTRL - MEMO  . . . . . . . . . . . . .NoteTaker
CTRL - APPT  . . . . . . . . . . . . . .Stopwatch
CTRL - HP Calc  . . . . . . . . . . WorldTime
CTRL - 123  . . . . . . . . . . . .DOS Prompt
CTRL - &...  . . . . . . . . . .System Macro
CTRL - FILER  . . . . . . . . . . . . . . . .Setup
CTRL - PHONE  . . . . . . . . . . .DataBase
CTRL - cc:Mail  . . . . . . . . . . .Datacomm
```

On the HP 200LX Only

```
CTRL - QUICKEN  . . . . . . . . . . .Datacomm
ALT - 123  . . . . . . . . . . . . . . . . .cc:Mail
ALT - PHONE  . . . . . . . . . . .cc:Mail Auto
                      Directory Exchange
```

You can also go to the Application Manager and start the built-in application by highlighting the application icon and pressing `ENTER`.

`Phone`

`100/200LX`

Customize list view by adjusting columns
You can adjust the columns of data displayed in the list view of the PhoneBook, NoteTaker, and Database applications. From the All Items view, press `F8` (Columns). The Column Arrange screen appears, allowing you to resize, add, delete, and move columns. Move the cursor to the field you want to modify and use the Function keys as follows:

`F8` — Move column right
`F7` — Move column left
`F6` — Increase width of column
`F5` — Decrease width of column
`F3` — Delete field/column from this view.
`F2` — Add another field/column to this view.

This procedure only modifies the All Items display. It does not remove data fields or data from the Phone Book, Database, or NoteTaker file.

`100/200LX`

Finding a name and Searching for text in Phone Book

On either HP Palmtop: Finding a name
The easiest way to find a name in a Phone Book list is to start typing the name. The cursor will jump right to it. Make sure you enter your names consistently (last name first so PHONE alphabetizes them properly). Let's say you have entries with similar last names (e.g. Stanley and Stevens) and you want to go to Stevens. Start typing the name you want. After typing **st**, the cursor will rest on the first ST it finds: Stanley. As soon as you've typed in **ste**, the cursor will jump down to Stevens. If you have two Stanleys and you want to go to the second Stanley, the cursor will rest on the first Stanley until you start typing the second Stanleys first name.

If you can't remember someone's last name and want to search by first name, phone number, or some other unique word you have in one of the data fields, use PHONE's find feature.

An important trick is to enter key words into a new Phone Book entry, especially when you are entering a new acquaintance whose name could be easily forgotten. Suppose you just made a new business contact with a gentleman that trades in coins, and who has a beard. On the last line of the address field (95LX) or in the Note field (100/200LX) you could type the words: "coin" and "beard." "Coin" and "beard" are words to remind you of the individual.

Six months later when you want to recall the gentleman's name, you might remember he had a beard or that he sold coins. You could do a Find on "coin" or "beard."

On the 100/200LX: searching for text
Press `F4` and key in the word, number, or phrase for which you are searching. Press `F4` again and PHONE will jump down to the next occurrence of that word. Press `F3` and it will move backward to the previous occurrence. If nothing is found, it will beep and display "Text not found." The Find feature is also available in Appointment Book, Database, Note Taker, World Time, and Memo.

On the 95LX: searching for text
Press `F7`, key in the text you are looking for and press `F7` (next occurrence) or `F5` (previous occurrence). If nothing is found, it will beep and display "String not found."

`100/200LX`

Selecting multiple records
Suppose you want to execute a command for several phone records at once, such as to export them to a new file. How do you select multiple records so that you don't have to repeat the command for each one?

Highlight and press `<Spacebar>` for each record you want the command to operate on. (Pressing `<Spacebar>` again de-selects the record.) Try pressing `<Shift>`-`<Spacebar>` a couple of times to select and de-select all records. Then try `<Shift>`-`<UpArrow>` or `<Shift>`-`<UpArrow>` to select and move the cursor at the same time.

Multiple selections work in the Phone Book, Database, NoteTaker, World Time, and Filer, but not in the Appointment Book.

APP MANAGER

100/200LX

One entry for "low-use" .EXM programs keeps AppManager uncluttered

EXM programs are System compliant programs that can be set up in the Applications Manager program to run on your HP 100/200LX. EXM programs are like the built-in programs in that you can pop them up on top of other programs, cut and paste information between them and other .EXM programs, and more. It turns out that quite a few .EXM programs have been written for the HP Palmtops. Since you can only set up 8 additional EXM programs in AppManager, you can't indiscriminantly load them on your Palmtop.

If you have a number of EXMs that you'd like to be able to run occasionally, but don't want to leave to set up in AppManager, you might try this solution. Set up one entry in AppManager to execute an .EXM program called TEMP .EXM. For this example, assume that TEMP.EXM is on the root directory of your C drive.

Follow these steps to set up TEMP.EXM:

1. Go to AppManager and press F2 and you are presented with the "Add an Application" dialog box.

2. Type TempExm into the Name field.

3. Type C:\TEMP.EXM into the Path field.

4. Press F4 and you're prompted to select a hot-key combination to activate this EXM program. Press the hot key combination you desire.

5. Press F10 to complete the process.

Follow these steps to run low-use EXM programs:

1. Open Filer and copy the desired .EXM program to the TEMP.EXM file.

2. Open AppManager and run TEMP.EXM, or just press the hot-key combination that you selected for TEMP.EXM.

Judson Hardcastle
CompuServe ID:[71155,1761]

APPT BOOK

100/200LX

Set a repeating appointment for the last day of every month

Many people pay bills and do other things on the last day of each month. To set such a repeating appointment on the 100/ 200LX, press F2 in the main Appointment Book screen to enter a new appointment. Key in the appointment description and press F8 and arrow to the Daily Repeat Options dialog box.

Appointment Book's Daily Repeat Options dialog box.

From the Daily Repeat Options dialog box, do the following:

1. Select the **Monthly** option

2. Make sure the Frequency is set to repeat every **1** month(s)

3. Go to the Monthly Repeat Type box and make sure the

By Day Number button is selected

4. Put **31** in the "By Day Number" box

5. Set the Duration of the appointment as desired, and

6. Press F10 to save the appointment.

This gives me a repeating appointment on the 31st day of each month. For months that don't have 31 days, the appointment comes due on the last day of that month. It even works with February in leap years.

Ron Vieceli
CompuServe ID:[73310,3663]

100/200LX

Entering appointments so that information displayed in weekly and monthly views is understandable

[This tip inspired by message from Sam Azar, CompuServe ID: [72570,3060]].

The week and month views of Appointment Book give you a good overview of when you have appointments, but do not display very much information about the appointment. Press F7 from the main Appointment screen for the monthly view. This view will display the first 9 characters of the appointment description of up to 4 appointments.

Press F8 to go to the weekly view. If your Appointment Book was set to display hourly appointments, none of the appointment description is displayed — just a gray band on the day and time of each appointment that week. Press Fn - Spacebar to zoom to appointments being displayed every half hour and you'll get the first 8 characters of each appointment displayed in the weekly view. Press Fn - Spacebar again to zoom to the "every 15 minutes" display and the first 16 characters of the appointment description will be displayed for each appointment.

Make two changes to the way you enter appointment descriptions and the information displayed in your weekly and monthly views will be more understandable:

1. Put a key word describing the activity first.

2. Compress information by deleting spaces between words and using capital letters.

A few examples will clarify these points.

I'll enter **Meet Paul ReTips** to discuss the next Quick Tips section with our Associate Editor, Paul Merrill;

I'll enter **Call Lu ReSitter** to remind my wife that we need a babysitter for tonight;

I'll enter **AutoTuneup Bobs** to remind me that I have to

Weekly appointments view shows first 9 characters of appointment description when set to display appointments every 30 minutes. More info displayed if an appointment spans more than 30 minutes.

Appointment book Monthly view shows the first 10 characters of the descriptions of up to 4 appointments

take the car in.

These sample appointments would appear on the Weekly view as shown on the bottom of the previous page and the Monthly view as shown above. In either view I can see what I have to do and who I have to do it with. Additional parts of the description can be viewed by pressing [F9] to go to the main Appointments screen. More detailed information about the appointment can be entered in the Note field and accessed by highlighting the appointment in the daily, weekly, or monthly view and pressing [F3].

Rich Hall
Editor, HP Palmtop Paper

DATABASE

What are the real limits to the amount of information you can store in a DataBase?

Page 17-29 of the original *100LX User's Guide* ends with a section entitled Limits While Using the Database Application. If you have the newer, thinner 100LX manual or the 200LX manual, try looking in the Database chapter. Here's the basic information given:

1. The theoretical maximum number of records in a Database file is about 5,000. This number is further limited by the amount of available RAM disk space on the C or A drive where the DataBase .GDB data file is stored.
2. A database can have up to 99 data fields on 4 data pages. The larger your data

fields are, the fewer fields you can have in a database.

3. The maximum number of data characters per text field is equal to 1 1/2 times the visible length of the field, but not less than 10. So if you have a text field that is 20 characters wide, it can enter 30 characters in it.

4. The maximum number of data characters in a Note field is 32 KB (about 30 full screens).

5. The Category field lets you group data items in a database. So if we created a database of wines, we might define a category field named "Type" that contained entries like "white", "red," "sparkling," etc. The Category field has the following limitations:

A. You can have only one category field in any database.

B. You can define many different categories for that field, but you can use no more than 255 characters for the combination of all unique categories you define. Let's use the wine database example again to help clarify this.

Say you have defined three distinct categories for your wine DataBase (white, red, sparkling). The total number of characters used by those three categories is 17. You have 255-17 or 238 characters left for other categories.

C. You can enter more than one category in the Category field by separating the categories with a semicolon. For example, an entry in the wine database described above might have

"sparkling;white" in the category field. The Category field can contain many categories, but the enteries can total no more than 127 characters (including separating semicolons).

I tested these parameters by creating a sample database similar to the PhoneBook and entering bogus data. It max'ed out between 3000-4000 records. See the file BIGDDB.100 ▤ for some simple- minded benchmarks that I did and some comments by the author of the database engine Andy Gryc.

If the built-in database can't hold enough data for your needs, remember that dBase III runs on the 100/200LX.

Craig Payne
CompuServe ID:[72672,3706]

Holidays database

HOL200.ZIP ▤ is an effort to collect the most common holidays and include them as EVENTS not appointments in the 100/200LX Appointment Book. The holidays that are dependant on the occurrence of Easter are set up to repeat, just scheduled through 1995, all other holidays were set up to repeat to 1999 in accordance with rules for that particular holiday as described in the dictionary. Columbus Day is entered as observed, not traditionally.

Steven Van Dyke
CompuServe ID:[70611,2147]

[Dara Khoyi, CompuServe ID:74147,242, also wrote HOLIDAY.GDB ▤, a database file, also placing each holiday as an event Rich.]

DOS

Automatically run a DOS program when closing Sys Manager

Here's a way to modify the AUTOEXE.BAT file to accomplish the above. In this example, the DOS program we want to run is DOSMENU ▤, a program that displays a

menu of programs you can run from the DOS prompt. You could replace DOSMENU in the instructions below with the name of any DOS program. (Remember, the DOS program must be in the root directory of the C drive, or in a directory that is mentioned in a PATH statement in your AUTOEXEC.BAT file.)

Open your AUTOEXEC.BAT file in Memo and move to the last command line of the file (100 in the 100LX, or 200 in the 200LX). Replace this line with the following four lines (Use 200 instead of 100 above if you have an HP 200LX):

```
: Loop
100
dosmenu
goto Loop
```

Press [F10] to save the file, and [CTRL]-[ALT]-[DEL] to reboot the system. The command line "100" starts System Manager. Whenever you terminate SysMgr by pressing [&...] [MENU] Applications Terminate All, the next line of the AUTOEXEC.BAT file is executed and DOSMENU is started. When you quit DOSMENU, the last line of the AUTOEXEC.BAT file is executed, taking you back to Loop and then executing 100, which starts System Manager again.

Thomas Rundel
CompuServe ID:[100023,2477]

Setting WordPerfect 5.1+ for DOS to work on the HP 100/200LX

I got WP 5.1+ to work on my 100LX by doing a "minimum installation" on a memory card (i.e., installing only those WordPerfect files absolutely necessary for the program to operate). I used the "Minimum Installation" option from WordPerfect's install program to install the files to my desktop's hard drive. Then I copied them to my Palmtop's memory card and ran the program from the DOS A prompt by typing wp and pressing

ENTER. It took approx 4.5 seconds for the program to load.

The minimum installation installed these WordPerfect files:

File name . .File size (Kb)

```
WP.EXE . . . . . . . .233,472
WP.FIL  . . . . . . .649,175
KEYS.MRS  . . . . . .4,800
WP.MRS  . . . . . . .6,072
STANDARD.IRS  . . .4,905
STANDARD.PRS . . .1,942
STANDARD.VRS . .30,482
WP.QRS . . . . . . .17,034
WP51.INS . . . . . . .2,307
WP{WP}US.LCN  . . . . .16
WP{WP}.SET  . . . . .5,551
```

When I get a bigger memory card, I want to put all of WP5.1+ on it, so I can convert WordPerfect for Windows 6.0 documents on the 100LX, and work with my real work documents.

Thomas Glen Leo
76360,2533

[A. Meshar, CompuServe ID: 71414,2112, used CLOSFLR ▪ to remove Filer from System RAM and give him some more memory to run WordPerfect 5.1+. Michael Schuster, CompuServe ID: 70346,1745, discovered that WordPerfect 5.1+ crashed on his HP 200LX whenever it automatically powered off after 3 minutes, or when he pressed (OFF). The solution he discovered was to go to the WP setup menu, and under "cursor speed" option select the last choice: 6. Normal — Rich.]

HP CALC

95LX 100/200LX

Transferring Solver .EQN files from the 95LX to the 100/200LX

The HP 100/200LX should be able to use .EQN files created on the 95LX. However, Solver on the 95LX can work with a slightly larger .EQN file than Solver on the 100LX can accept. Hence, there is a possibility that a 95LX .EQN file will not work on the 100LX or 200LX. If you discover this problem with a large .EQN file (40K and above), load it

on your 95LX and split it up into small .EQN files. Do this by loading the .EQN file, deleting some of the equations and saving the file under a different name. Reload the original .EQN file and repeat this process until the big .EQN file has been divided into smaller ones.

Rich Hall
Editor, HP Palmtop Paper

MISC

100/200LX

Use KEYBEZ to type alternate character sets for different languages on the HP 100/200LX

The KEYBEZ utility built into the HP 100LX and 200LX lets you configure your Palmtop's built-in applications to use additional languages. The U.S. English version of the HP 100LX and 200LX supports the following languages:

Code,	Language	Character Set
BL	Byelorussian	Cyrillic
CR	Croatian	Slavic
CZ	Czech	Slavic
GK	Greek	Greek
HE	Hebrew (200LX only)	Hebrew
HL	Hebrew based Latin (200LX)	Hebrew
HU	Hungarian	Hungarian
PL	Polish	Polish
RO	Romanian	Slavic
RU	Russian	Cyrillic
SL	Slovak	Slavic
SV	Slovene	Slavic
TK	Turkish	Turkish
UR	Ukrainian	Cyrillic

KEYBEZ also sets the Palmtop's built-in applications up to display the dates, times and currency according to the conventions of the particular country specified.

HOW TO USE KEYBEZ
Follow these steps to set KEYBEZ up on the HP 100/200LX.

1. Terminate SysManager on the Palmtop by going to AppManager and pressing

MENU Applications Terminate All.

2. At the DOS prompt type **keybez** and press ENTER. KEYBEZ will ask you to "...specify one of the following parameters:" and display a menu of the Languages supported similar in content to the one shown above.

3. Type **keybez** followed by the code for the additional language you want to be able to use, and press ENTER. For example, if you wanted to be able to access Greek you would type **keybez gk** at the DOS prompt and press ENTER.

4. Type **100** (**200** on the 200LX) and press ENTER to start System Manager.

Open Memo (or any built-in application) and start entering some data. When you want to switch to the alternate language you have just set up, press CTRL and that language will be active. Press CTRL again to restore English (or your default language). You can place a KEYBEZ command line in the AUTO-EXEC.BAT file to automatically configure your Palmtop for a specific language whenever you reboot.

Note that when you're in the alternate language, you may have some minor difficulties with the application commands. For example, the letter "Q" does not seem to be available in Greek. When I pressed MENU Quit to exit Memo, nothing happened. I had to press MENU File Exit instead.

The layout of the alternate character keyboards is found in an *HP Palmtop User's Guide* index titled "South and East European Language Support." It is index **E** in the *HP 100LX User's Guide* and index **D** in the *HP 200LX User's Guide*. Further instructions on how to use the KEYBEZ program is found in the HP 100LX and 200LX User's Guide. Check "KEYBEZ" in the back index for page references.

Rich Hall
Editor, HP Palmtop Paper

95LX 100/200LX

Cleaning Sticky Stuff off your Palmtop

Spill orange juice, coffee, or Coke on your Palmtop's keyboard. Here's some advice.

1. Don't eat or drink around computers or other electronics equipment.

2. Clean off spills immediately. Turn the Palmtop (or keyboard) upside down so the liquid doesn't seep further into the guts of the machine.

3. Lightly wipe off the upside down keyboard with a facial tissue or some other very absorbant towel.

4. Use Q-tips dipped in alcohol to clean off the outside of the keyboard and the case. Use a glass cleaner to clean the screen.

If the liquid has gotten inside the Palmtop, it can cause real problems. Sugar gums things up and cola is corrosive. You may have to call HP Technical Support at **503-757-2004** (U.S. only) or your local HP dealer, send it in and have them take it apart and clean it up.

Some Palmtop users claim to have had success disconnecting the AC adapter, removing the batteries, taking the Palmtop apart, rinsing its internal parts in distilled water, drying them out thoroughly for a day or two, reassembling the Palmtop and reinserting the batteries. Hewlett-Packard Company does not recommend this procedure (see sidebar in Letters to the Editor, page 4 this issue).

Rich Hall
Editor, HP Palmtop Paper

Share/Freeware
Index: page 48

Product Index

Contact information for products mentioned in articles.
See Advertisers Index, next page, for additional product references.

HP PRODUCTS

Contacts: Authorized HP computer dealers worldwide (i.e. the same place you can purchase an HP LaserJet). To locate an authorized dealer in the USA, call 800-443-1254. You can also purchase the 95LX & 100/200LX and its accessories from *ACE Technologies* at 800-825-9977 or 408-734-0100; Fax: 408-734-3344; *EduCALC* at 800-677-7001; Fax: 714-582-1445. *Global Connections* at 608-752-1537; Fax: 608-752-9548.

HP 38G — $79.95
(HP F1200A)
HP 200LX 2MB — $699
(HP F1061A)
HP 200LX 1MB — $549
(HP F1060A)
HP 1000CX Palmtop PC — $449
(HP F1203A) Price per Palmtop, quantity of 50. Individually available through EduCalc.
HP OmniBook 600C PC
486DX2/50 170MB HD — $Varies
486DX4/75 260MB HD — $Varies
HP OmniBook 4000 PC
486DX4/100 520MB HD — $Varies
486DX2/50 260MB HD — $Varies
HP StarLink Service — $Varies
Wireless messaging service, for "one-stop communications solution." Contact: 800-917-LINK.
5-MB Flash Disk Card — $375
(HP F1012A) with Stacker 3.0 data compression software (not for the 95LX).
10-MB Flash Disk Card — $600
(HP F1013A) with Stacker 3.0 data compression software (not for the 95LX).
20-MB Flash Disk Card — $999
(HP F1014A) with Stacker 3.0 data compression software (not for the 95LX).
Dictionary/Thesaurus Card—$149.95
(HP F1005A)
AC/DC Adapter (HP F1011A)—$39.95
USA/Canada (Opt. ABA)
Europe (Opt. ABB)
Australia (Opt. ABG)
United Kingdom (Opt. ABU)
South Africa (Opt. ABQ)
PC Connectivity Cable — $24.95
(HP F1015A) Connect 95LX and 100/200LX to DOS compatible PC.
MAC Connectivity Cable — $24.95
(HP F1016A) Connect 95LX and 100/200LX to Apple PCs/MACs.
95LX Connectivity Pack — $119.95
(HP F1001A)
100/200LX Connectivity Pack — $119.95
(HP F1021B)
(HP F1021C) International
Connect/Adapter Kit — $24.95
(HP F1023A) 4 adapters for connecting the 100/200LX to modems, printers, and PCs.

100/200LX Accessory Cradle — $79
(HP F1027A) Connects the 100LX or 200LX to U.S. Robotics WorldPort V.42bis Modem, Skytel pager, and other products.
95LX Accessory Cradle — $60
(HP F1006A)
Service Agreements
For U.S. HP Palmtop users. Units must be under warranty to extend.
95LX, 1-year extension — $50
95LX, 3-year extension — $135
100/200LX, 2-year extension — $85
Contact: *HP, Corvallis Service Center, USA; Phone: 503-757-2002.*
NOTE: Prices listed are suggested retail price.

OTHER PRODUCTS

@Base — $195
Lotus 1-2-3 add-in reads and writes dBase III files. (See page 34)
Contact: *Personics Corp., USA; Phone: 800-445-3311 or 508-658-0040; Fax: 508-988-0105.*

acCIS 3.0 — $69
On 2MB SRAM card — $329
Automates CompuServe access. (See page 27)
Contact: *Shier Systems & Software; Phone: 805-371-9391; Fax: 805-371-9454; CompuServe ID: [75030,3374].*

Brief Ver.3.0 — N/A
Ver.3.1 — $249.95
Text based editor for programmers. (See page 10)
Contact: *Borland International, Inc., USA; Phone: 800-331-0877' Fax' 408-431-4122/*

cc:Mail for DOS
Network version — $Varies
E-mail software. (See page 9)
Contact: *Lotus Development Corp., USA; Phone: 800-343-5414; Fax: 617-693-3899.*

CloseUp Ver.6.0 — $199
Computer remote control software. (See page 10)
Contact: *Norton-Lambert Corp., USA; Phone: 805-964-6767; Fax: 805-683-5679.*

CompuServe — $Varies
Online information service. (See page 22)
Contact: *CompuServe USA; Phone: 800-848-8199 ext 231, or 614-457-0802; Fax: 614-529-9463.*

DOS 5.0 — $NA
DOS 6.0 — $59.95
Operating System. (See page 37)
Contact: *Microsoft Corporation, USA; Phone: 800-426-9400; Fax: 206-635-6100; Canada: 800-563-9048; International: 206-936-8661.*

Drive 100/200 — $323
Portable 3.5" disk drive. (See page 39)
Contact: *Sparcom Corporation, USA; Phone: 503-757-8416; Fax: 503-753-7821.*

Flash RAM Cards — $Varies
PCMCIA memory storage cards. (See page 10)
Contact: *Sundisk Corporation, USA; Phone: 408-562-0595; Fax: 408-562-3403.*
Or...
Contact: *ACE Technologies, USA; Phone: 800-825-9977 or 408-734-0100; Fax: 408-734-3344.*

HP Palmtop Paper, Back Issues
Contact: *Thaddeus Computing, USA; Phone: 800-373-6114; Fax: 515-472-1879.*

HP Palmtop Developer's Guide — $79
Kit to assist developers of Palmtop software and hardware products. (See pages 12-16)
Contact: *Thaddeus Computing, USA; Phone: 800-373-6114; Fax: 515-472-1879.*

Magellan 2.0/3.0 — NA
No longer sold. File and text search. (See page 10)
Contact: *Lotus Development Corp., USA; Phone: 800-343-5414; Fax: 617-693-3899.*

Megahertz Xjack 14.4 Fax/Modem Card — $219
PCMCIA fax/modem card that works in the 100/200LX. (See page 10)
Contact: *Megahertz Corporation, USA; Phone: 800-527-8677 or 801-320-7000; Fax: 801-320-6022.*

MICROREF Quick Reference Guide
Lotus 1-2-3, Version 2.4 $ 14.95
DOS 5.0 — $14.95
Both— $25
(See page 37)
Contact: *Thaddeus Computing; Phone 800-809-5603 or 515-472-6330; Fax: 515-472-1879.*

pc ANYWHERE Ver.4.5 — $179
Remote access and file transfer software. Previously discontinued — now available again. (See pages 9-11)
Contact: *Symantec Corp., USA; Phone: 800-441-7234 or 503-334-6054; Fax: 503-334-7400.*

Practical Pocket Modem 14.4 — $459
Portable modem. (See page 9)
Contact: *Practical Peripherals, Inc., USA; Phone: 404-840-9966 or 805-497-4774; Fax: 805-374-7200.*

Procomm Plus for DOS — $85
Communications software. (See page 11)
Contact: *Datastorm Technologies, Inc., USA; Phone: 314-443-3282; Fax: 314-875-0595.*

QUICKLX — $39
Typing helper. (See page 22)
Contact: *Sysems Shier Systems & Software; Phone: 805-371-9391; Fax: 805-371-9454; CompuServe ID: [75030,3374].*

ReachOut Remote — $109.95
Remote access software. (See page 10)
Contact: *Stac Electronics, USA; Phone: 800-522-7822 or 619-431-7474; Fax: 619-431-0880.*

Roland Sound Canvas
SC-55 — $NA
SC-55 Mark II — $895
Sound module — over 300 instrument sounds. (See page 4)
Contact: *Roland Corp. USA; Phone: 213-685-5141; Fax: 213-722-0911.*

Stacker 4.0 — $99.95
File compression software. (See page 9)
Contact: *Stac Electronics, USA; Phone: 800-522-7822 or 619-431-7474; Fax: 619-431-0880.*

SuperKey - $NA
No longer sold. Add on macros software. (See page 10)
Contact: *Borland International, Inc., USA; Phone: 800-331-0877; Fax: 408-431-4122*

Travel Floppy 144 — $249
Floppy/PCMCIA drive. (See page 39)
Contact: *Accurite Technologies, Inc., USA; Phone: 408-433-1980; Fax:408-433-1716.*

US Robotics V.32bis modem:
Internal — $100
External — $149
Portable modem. (See page 9)
Contact: *U.S. Robotics, USA; Phone: 800-342-5877 or 708-982-5010; Fax: 708-982-5235.*

User's Groups. HP Palmtop
See box on page 6, this issue.

WordPerfect 5.1 — $299
6.1 — $319
Word processor. (See page 10)
Contact: *Word Perfect/Novell Corp., USA; Phone: 800-451-5151 or 801-225-5000; Fax: 801-228-5377.*

X-Tree Gold Ver.2.5 — $NA
Ver.3.0 — $149.95
Disk/file management utility. (See page 10)
Contact: *Central Point Software, Inc., USA; Phone: 800-445-4208 or 503-690-8088; Fax: 503-690-8083*

HOW TO CONTACT US

There are a number of ways to get in touch with The HP Palmtop Paper staff. You can write, mail us a disk with your comments, send CompuServe mail, fax, or call. Our mailing address and contact information is:

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Fax #:515-472-1879
CIS ID: Hal Goldstein, [75300,2443]
Internet: 75300.2443@compuserve.com

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Technical Support

HP Technical Support – HP offers these options:

■ FREE TECHNICAL SUPPORT—is offered to all PalmtoP users and is available by calling 503-757-2004.

■ FREE AUTOMATED SUPPORT is offered 24 hours a day by calling 800-443-1254.

■ REQUEST FAXED OR MAILED INFORMATION—800-752-0900.

On-Line Support—offered by these bulletin board services.

■ COMPUSERVE: GO HPHAND FORUM - Call 800-848-8199 or 614 457-0802: For FREE membership state #231.

■ AMERICA ON LINE: Keyword PALMTOP - Call 800-227-6364 or 703-893-6288 for membership information.

■ INTERNET: comp.sys.palmtops; or eddie.mit.edu.

How to submit an article

The richness of The HP Palmtop Paper comes from the contributions of Palmtop PC users. We and your fellow users welcome your submissions. (We do not offer payment for articles, your reward is knowing that you've helped others.)

If you have a good idea and want to "go for it," send it in via Compu Serve E-Mail [75300,2443], Internet: 75300.2443@compuserve.com, or send disk or hard copy to Hal Goldstein or Rich Hall at the above address. Alternatively you can send an outline of your idea. We will try to guide you as to when and whether we would use the article and contact you if we need clarification or have any suggestions. We may want to use an article but for a variety of reasons you may not see it for many months. Please understand that we cannot promise to run any particular article.

If you can, especially if you write a Palmtop Profile, send us a black and white photo of yourself.